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Landscape Contractor Profile; Laying Low for Recovery

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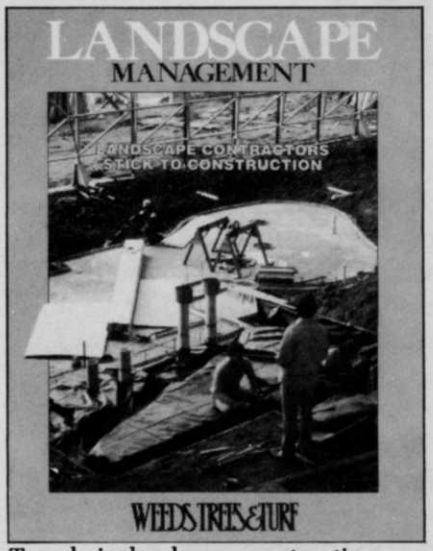
WT&T

Cover: Interiorscapers from John Mini Indoor Landscapes water tropical plants in New York's ChemCourt, a huge greenhouse-like structure at tached to Chemical Bank on Park Avenue. See page 24.

JANUARY 1983/VOL. 22, No. 1

Indoor plantings have arrived, see page 24



Trends in landscape contracting, see page 31

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Interiorscape Planning Involves Building And Plant Specialists

The indoor landscape has been accepted by urban builders as evidenced by major projects in New York City. John Mini tells how to work with architects and engineers to meet plant specifications.

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Turf Needs Don't Match Customer's Wants

ChemLawn agronomist Charles Darrah describes a lawn care dilemma, matching the customer's desire for a dark green lawn yearround with the agronomic needs of the turfgrass plant. Lawn care specific research is needed, Darrah says.

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Landscape Management Profile: The Contractor Waits for Recovery

An anticipated shift toward maintenance from construction has not occurred according to the most recent *Weeds Trees & Turf* market survey. Small shifts in target customers are reported. One small and one large firm are profiled in their approach to business and the economy.

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15 Plants For '83 Landscapes

Doug Chapman selects from recent plant introductions for your 1983 shopping and specification lists. All have improved resistance to insects and disease to help streamline maintenance programs.

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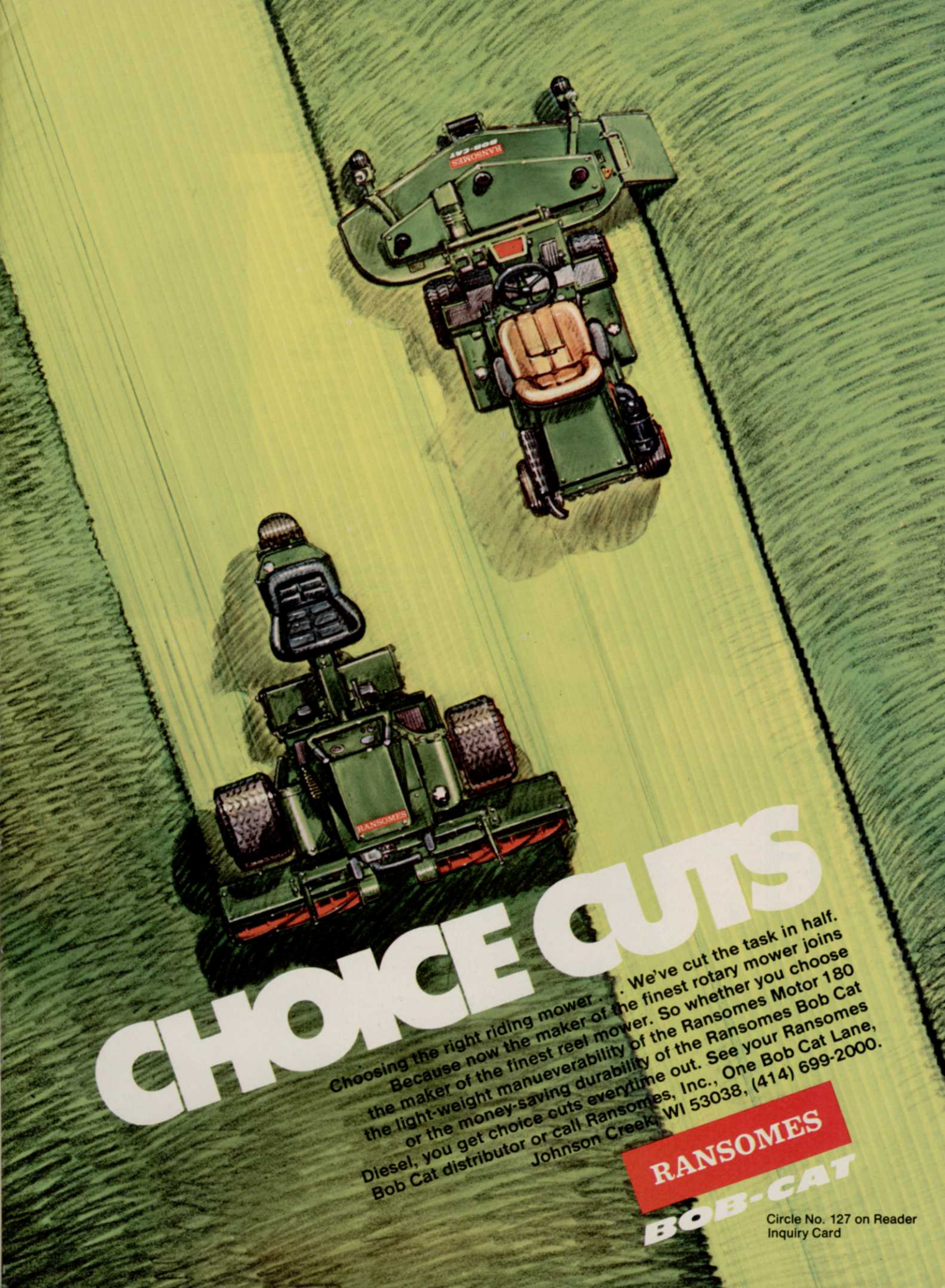

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OUTLOOK

By Bruce F. Shank, Executive Editor

Lobbyists aren't all bad

Special interest groups and their lobbyists have gained a "soiled" reputation with the American public. Purists are themselves applying lobbying power to develop legislation to restrict the power and influence of special interests.

Recent conversations with Leo Donahue and Ray Brush of the National Landscape Association would indicate lobbyists, in this case Donahue and Brush, actually coordinate interagency paperwork. These two men have been trying to work out improved gypsy moth quarantines with the Office of Management and Budget and the U.S. Department of Agriculture. They have discovered misunderstandings between OMB and USDA which may have been blocking progress of quarantine implementation.

Had Brush and Donahue not stayed in contact with the agencies, the current ineffective quarantines would have stayed the way they are. It wasn't a matter of influence, it was a matter of helping one agency know the real position of the other.

GCSAA show is Prusa's debut

The GCSAA International Turf Show scheduled for Atlanta, GA, in late February is Education Director Jim Prusa's first major effort to expand and improve the already high standards of the conference and trade show. He has been active on the education committee before, but this time he is in charge of the educational sessions.

Prusa comes from a superintendent's family and his brother is active in a growing lawn care operation in the Midwest. He is an honest-to-God "turfy". He is no green upstart out to upset an old, respected occupation. He is also not regionally limited to his educational experience at Cal Poly, Pomona. He grew up in Ohio and has a Masters in Business as well as a degree in horticulture. His professor at Cal Poly was Kent Kurtz who originally built his career in Illinois and returns there every summer.

So I doubt if GCSAA could really find a much better individual than Prusa to run its educational programs. The Atlanta conference will likely prove this. Educational seminars have been expanded greatly. Early risers can take advantage of seminars without leaving their jobs the weekend before the show. Prusa has responded to comments and criticisms about previous shows.

The staff of *Weeds Trees & Turf* looks forward to this year's GCSAA Conference and Trade Show. We hope to see you there.

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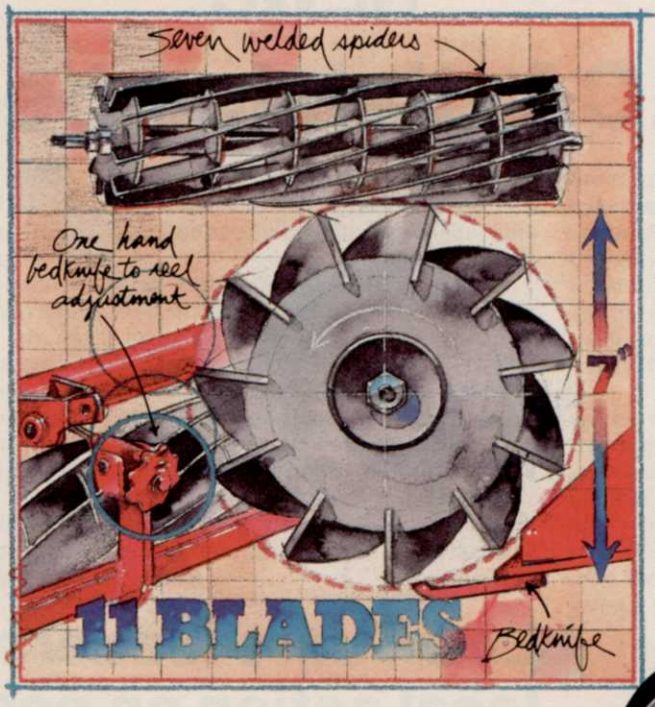

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GREEN INDUSTRY NEWS

New ALCA division begun

By a vote of 78 to 0, the landscape management committee of the Associated Landscape Contractors of America voiced its approval for a full-fledged division of ALCA specifically for management. The vote took place during ALCA's first landscape management conference held in Dallas in November.

"Every small business starts with a technical skill, but eventually management takes more and more time," Georgia State University's Dr. William Franklin told the conference. "The number one issue you must address as a small business owner is survival with meaning. Every firm must have a sense of purpose, mold a unique character that communicates that purpose, decide what needs to be done, and mobilize resources."

With this thought in mind, the committee voted to become a division of ALCA, with its own officers, budget, and staff. Committee chairman Don Synnestvedt of Brickman Industries, Long Grove, IL, will become past chairman of the new division and Ron Kujawa of KEI Enterprises, Cudahy, WI, will be the chairman. Jack Mattingly of Mattingly Associates, Charlotte, NC, is president-elect of the new division.

More than 300 landscapers attended the Dallas conference, a significant number for a first-time event. The thirst for management information in landscaping appears to justify the need for a management specialty group.

One speaker, Clifford Kraft of Organizational Development Associates, described the phases of development companies go through in their lifespan. There are the entrepreneurial (beginning) stage, the personal stage where the owner makes all the decisions, then finally the organizational stage where the company's fate rests with others making decisions.

COMING SOON

Landscape Garden Center Management Clinic, Galt House, Louisville, KY, Feb. 6-9. The nursery businessman's annual update on management. Wholesale nurserymen and landscape contractors can benefit from this seminar. Contact the National Landscape Association, 230 Southern Building, Washington, D.C., (202) 737-4060.

American Sod Producers Association Winter Meeting, San Antonio, TX, Feb. 16-18. The primary association for sod producers hosts this annual relaxed business meeting. Contact Bob Garey, ASPA, 9th and Minnesota, Hastings, NE 68901.

International Turfgrass Conference and Show, sponsored by the Golf Course Superintendents Association of America, Atlanta, GA. Feb. 22-24. All managers of turf can benefit from this show. Contact GCSAA, 1617 St. Andrews, Lawrence, KS (913) 841-2240.

Lawn care leaders urge local action on pesticides

Involvement at the local level concerning governmental regulation in all phases of the chemical industry was the pervading undercurrent at the Professional Lawn Care Association of America's 3rd Annual Convention and Trade Show in Indianapolis in November.

Close to 700 lawn care professionals convened at the Indiana Convention and Exposition Center to hear more than 11 presentations, participate in panel discussions, elect new officers and board members and, of course, socialize. 115 firms exhibited at this year's show, representing 172 booth spaces.

Governmental regulation remained at the forefront of the convention.

"I think the platform concern at this year's convention was the need to build a strong, aggressive, articulate response at the local level to federal regulation of this (lawn care) industry," said Al Van Horn III, exhibit and meetings manager from the Bostrum Management Corp. of Chicago.

Past conventions, officials say, had more attendees, but never more companies represented, which Van Horn takes as a healthy sign.

Seminar topics were designed to meet the changing technical and business needs of the lawn care professional. They ranged from "The Magic of Motivation" by Gerald Sweda, Manager of Corporate Sales Training at O.M. Scott & Sons, Marysville, OH, to "Preventive Employee Relations for the Lawncare Businessman" by attorney Richard I. Lehr, Chairman, Management Labor Department at the law firm of Sieote, Permutt, Friend, Friedman, Held and Apolinsky of Birmingham, AL.

One of the most well-attended seminars was Dr. Robert W. Miller of ChemLawn's presentation of the "2,4-D Coalition Update," addressing one of the more controversial issues facing the industry. Miller stressed that while much still needed to be accomplished in the area, the coalition had already initiated a news media tour, speakers bureau, legislative efforts in Connecticut and Massachusetts, a "Call to Action" brochure, established an information center, has developed a plan of action, given financial aid in New Jersey, Montana and Washington, and has established a $114,000 budget for 1983.

Continued on page 12

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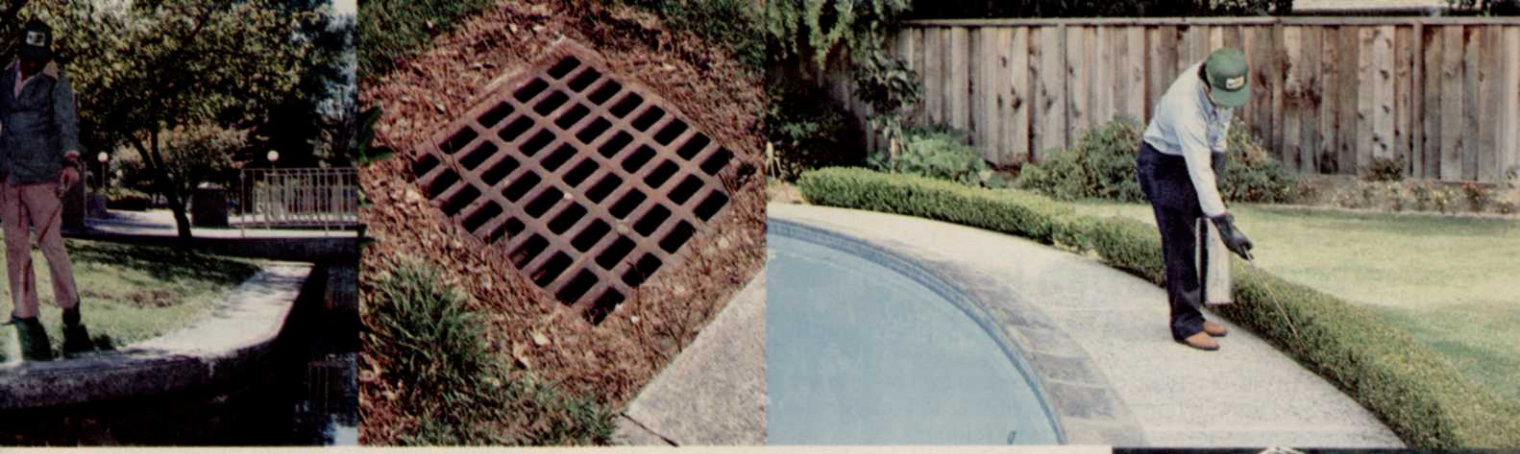

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GOLF UPDATE

Golf to flourish in '83 says ASGCA's Snyder

The current recession doesn't seem to be bothering the golf industry, in fact the game is flourishing, according to Jack Snyder, president of the American Society of Golf Course Architects.

"In the past," Snyder said, "golf play and development declined when the economy slowed, but play has been up in 1982 and many new projects were started despite the high cost." He predicts 1983 will be an outstanding year for golf in all sectors—real estate, resort, daily fee and municipal.

With the growth in the number of players also comes the growth in the need for modernization of courses. Snyder said many courses are now outmoded because modern equipment allows players to avoid the hazards that were installed 30 or 40 years ago. Many older courses are now adopting master plans and phasing-in improvements over several years. Although there are more than 13,000 golf courses in the United States, nearly half are nine-holes and prime candidates for remodeling as part of a master plan to develop a full 18-holes, according to Snyder. Approximately 15 percent of the counties in the country do not even have one golf course.

"Real estate and resort developers have learned that golf is their number one drawing card and a major development must have a golf course if it is to be successful," Snyder points out. "In many cases, the golf course is built before the housing or hotel is developed."

Municipalities and daily fee operators have found that golfers have continued to play in record numbers during the recession and that has encouraged more to consider new layouts.

"A skilled golf course architect can design a course on almost any site, and work within the budget that has been mutually agreed upon. In recent years, we have seen golf courses built on landfills, swamps, flood plains, abandoned strip mines and other 'undesirable' sites. There is land available for golf development, but it often takes the combined efforts of several parties to make it available," Snyder said.

Cable TV golf lessons available

Golf Schools, Inc. has developed a series of golf lessons being shown on the national SPN Cable Television network. "The Name of the Game is Golf" is shown at 7 p.m. on Tuesdays, 10 a.m. Saturdays and at 1:30 p.m. on Sundays (EDT). Each television segment is edited from five, one-hour tapes which include 50 lessons from nine men and women professionals on putting, short irons, medium and long irons, sand lessons and special shots and wood and tee shots. The tapes are available for home video with VHS, Beta or U-Matic Tapes from Golf Schools, Inc., P.O. Box 9199, Canton, OH 44711.

Author and strategist for the instructional series is Ben Sutton, Director of Golf School for Seniors at Sun City Center, FL. In his third year as founder and director of Golf School for Seniors, Sutton and his staff of over 15 PGA and LPGA teaching professionals have conducted weekly golf schools for over 13,000 men and women golfers since 1968.

During the '82-'83 season, there will be 33 fall, winter and spring weekly schools running through May, 1983. Advanced teaching aids such as color , stop action and instant replay camera and a sequence graph-check camera are used. Facilities at the school include 11 greens exclusively designed for putting, chipping, approaching and playing sand shots, as well as a large practice tee and two, 18-hole golf courses for playing after class. For more information, write to the Golf School for seniors at the above address.

NEWS *from page 8*

MEETINGS

APS celebrates 75th at Iowa State

The American Phytopathological Society will have its 75th Annual Meeting and Diamond Jubilee Celebration June 26-30 at Iowa State University, Ames, IA. This year's meeting will be held jointly with the Society of Nematologists and the Mycological Society of America. Together, the three societies will celebrate APS' Diamond Jubilee Year.

The theme for this year's meeting is "Challenging Problems in Plant Health." Highlights will include New Products and Services sessions, Group Book Display, Discussion and Symposia Sessions, commercial exhibits and others. For more information, contact APS Headquarters, 3340 Pilot Knob Rd., St. Paul, MN 55121, (612) 454-7250.

CHEMICALS

Estech's Knowlton elected safety leader

Thomas E. Knowlton, director of corporate safety and health for Estech, Inc., has been elected to a one-year term as general chairman of the 61-member executive committee of the National Safety Council's Fertilizer and Agricultural Chemical Section.

The Section works to increase the knowledge of fertilizer and agricultural chemical safety and health, provides information on safety and health to retail outlets by conducting schools and seminars, and studies and recommends solutions to safety and health problems.

Knowlton was named corporate safety and health director for Estech in June, 1981. Prior to joining Estech, he served with the United States Air Force for 21 years as superintendent of industrial hygiene, occupational medicine and bioenvironmental engineering departments at nine major Air Force bases.

TURF

Jacobsen named Conwed sales manager

William W. "Woody" Jacobsen has been promoted to sales manager, turf establishment products, for Conwed Corporation's Fiber Products Division.

In his new position, Jacobsen assumes responsibility for the national field sales of Conwed's hydraulic

Continued on page 16

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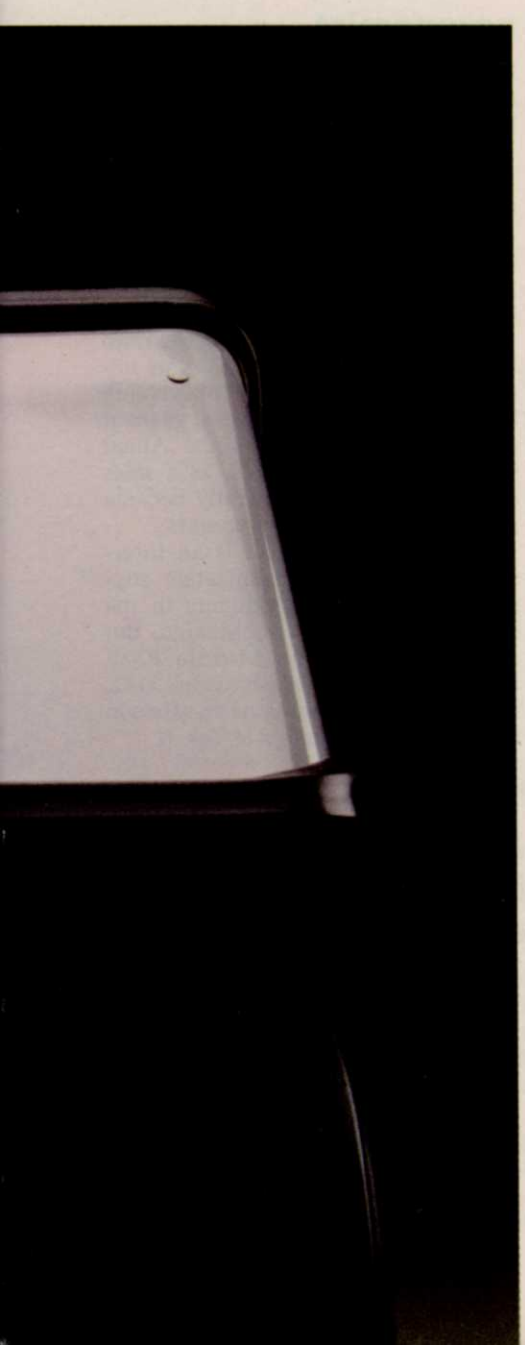

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LANDSCAPE UPDATE

March is ASLA deadline

Entries are currently being accepted in the American Society of Landscape Architects 1983 Professional Awards Program. Photographic entries are judged in three categories; landscape architectural design, landscape planning and analysis and research and communications, by different juries of judges. Deadline for entries is March 1.

Between 150 and 175 entries have been submitted in past competitions from members vying for the President's Award, Honor Award and Merit Award. All categories of entries require a minimum of four different 8 × 10 black-and-white photographs and between six to 20 35mm color slides (quantities vary depending on category).

Entrants should keep the following guidelines in mind:

-Show the project in use or show people enjoying the project.
-Entries should demonstrate good photo composition. Key in on a unique aspect of the project.
-Entries done by professional photographers are acceptable.
-Secure all publication rights to the photos and include the photographer's name for photo credit purposes.

For any further questions about entries, contact the ASLA at (202) 466-7730.

Interior contractors set record

The Associated Landscape Contractors of America announced recently that in spite of the sluggish economy its interior landscape members achieved a yearly record high of $195 million in sales.

ALCA President Ray Gustin said, "This survey shows what an important economic force interior landscape has become within the green industry. With unemployment rising to over 10 percent, and residential and non-residential building at new lows, they have demonstrated their strong marketing and creative abilities."

The information on the record sales was gathered from a voluntary dues survey of the membership.

"With many companies and homeowners delaying construction of new homes and offices, we have seen an even greater demand for our services," said Interior Landscape Design Chairman Dick Ott.

ALCA Executive Director Alan Smith anticipates at least a 10 to 15 percent rate of growth for this segment of the industry.

"Ideas for the '80s" set by NCLCA

Ideas for marketing services and for people management will be the key topics discussed at the 1983 North Carolina Landscape Contractors Association, Inc. Annual Meeting, Feb. 12-14 at the Green Park Inn in Blowing Rock, NC.

This year's meeting, "Ideas for the '80s; A Weekend Retreat for the Landscape Industry," is expected to draw over 200 people. Members in the 10-year-old organization are landscape contractors as well as landscape architects, nurserymen, interiorscape firms, landscape maintenance firms, manufacturers, suppliers, seedsmen, equipment dealers and others in related industries. Registration is $55 for the first member attending from a firm, $45 for each additional person and $15 for children. Information and reservations can be made by contacting the NCLCA, P.O. Box 25891, Raleigh, NC, 27611 or by calling (919) 781-7242.

NEWS *from page 12*

mulch and erosion control netting, both of which are commonly used in urban and rural turf establishment. Formerly, Jacobsen was an area marketing specialist for those products. He joined Conwed in 1979 and holds a degree in agricultural business from the University of Tennessee.

Conwed Corporation is a diversified manufacturer of specialized industrial and interior products. Other major lines include coordinated office workplace products, such as acoustical ceilings, freestanding desks and panels and furniture systems and plastic nettings.

AGRONOMY

Sulphur Institute names Morris chief agronomist

Robert J. Morris has been appointed chief agronomist of the Sulphur Institute.

Morris will be responsible for the Institute's agronomic research programs in North, Central and South America, Asia and Oceania. He will also coordinate efforts with public and private research and educational institutions in these areas.

Morris has a bachelor's degree from Rutgers University and a Masters degree in agronomy from Pennsylvania State University. After several years of academic research, he joined Allied Chemicals in Omaha, NB, as a sales agronomist and subsequently became product-development agronomist.

The Sulphur Institute is an international non-profit organization supported by sulphur producers in the United States, Canada, Mexico, Europe Japan and the Middle East. Headquartered in Washington, D.C., the Institute also maintains an office in London and a consultant in Tokyo.

FINANCE

AMFAC reports increase in 3rd quarter earnings

Amfac, Inc. recently announced third quarter 1982 net income of $3,838,000 or 26 cents per share, compared with $1,045,000 or six cents per share in the third quarter of 1981.

Revenues were $538,462,000 compared with $531,545,000 in the third quarter of 1981.

The favorable quarter-to-quarter comparison reflects substantially bet-

Continued on page 19

Continued from page 16

CHEMICALS

USS Agri-Chemicals promotes Fesperman

Stephen D. Fesperman has been promoted to National Marketing Representative - Professional Turf Products, USS Agri-Chemicals, Division of United States Steel. Fesperman will be responsible for the development and administration of sales and marketing activities for the USS Professional Turf Products Group throughout the United States. He joined USS Agri-Chemicals in 1977 with a background in turf and garden sales management.

TREES

Economic impact seen in tree exchange

A noticeable economic impact could be felt in the nursery business from a proposed international urban tree exchange between the Netherlands and the United States.

Dr. Henry D. Gerhold, professor of Forest Genetics in the School of Forest Resources at Penn State's College of Agriculture, has been working to implement the plan for the past several years and foresees economic benefits for both countries involved.

Gerhold noted trees and shrubs for landscaping are grown by over 5,000 wholesale plant nurseries in the U.S. with sales exceeding $1.5 billion in 1980, ($4.5 billion at the retail level). Landscape trees grown annually in the Netherlands are as valuable as all tulip and other bulbs for which the country is famous, totaling over $167 million U.S. dollars.

"The scope and growth of the landscape industry in the Netherlands is more advanced than in any other European country," said Gerhold, who has made two research trips to the Netherlands.

Gerhold and Dr. David F. Karnosky with the Cary Arboretum of the New York Botanical Gardens, visited the Netherlands this past summer and compiled a list of over 40 urban tree varieties that could be considered for importation to the U.S.

"We plan to have the list reviewed by commercial nurserymen to see which which varieties would be appropriate for this country," Gerhold said.

The economic impact of the program could be twofold.

"Any new variety introduced has value in its novelty," Gerhold explained. "Also, new cultivars are desirable because they can be improved varieties, possibly even disease-resistant.

The next step in the program is working out a method of importing the desired trees.

"It will take at least one government agency and some independent nurserymen to get things going," Gerhold said.

Several Dutch organizations have already planned to cooperate.

EXTENSION

Texas A&M Extension names associate director

Doyle L. Moore, a veteran with the Texas Agricultural Extension Service of the Texas A & M University System, has been named associate director, the second highest position in the organi-

Continued on page 20

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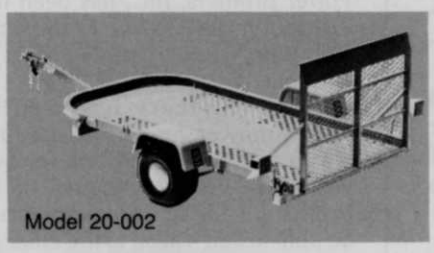
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Ideal for hauling grounds maintenance equipment, golf cars and other bulky, hard-to-handle items, the proven Snowco line includes eight flatbed trailers with loading ramps or tilt decks, plus a box bed trailer with tailgate.

The design of the popular ramp loading trailers—with perforated steel decks—has been improved for increased versatility. Three models are offered with capacities of 1,150 to 4,200 pounds.

Five tilt trailers with perforated steel decks are offered with capacities of 1,000 to 3,500 pounds.

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Circle No. 130 on Reader Inquiry Card

GOVERNMENT UPDATE

USDA research centers face cuts

United States Department of Agriculture research centers in Delaware, Ohio; Tifton, Georgia; Corvallis, Oregon; and Mandan, North Dakota may face significant cutbacks in funding according to Robert Lederer, executive vice-president of the American Association of Nurserymen, Inc.

The rumors of cutbacks have not yet been confirmed, but AAN's Leo Donahue said, "there is good evidence the rumors are true." The Office of Management and Budget will be meeting with AAN staff to go over the USDA line budget. "We will present a laundry list of recommendations for research funding," said Donahue.

Lederer wrote all Congressmen regarding the rumored cutbacks asking for hearings. He told the Congressmen, "Closing the Delaware Laboratory and reducing research at these facilities would eliminate virtually all horticultural research by the Agricultural Research Service. With an increasing percentage of nursery production being from asexual propagation, control techniques for nematodes, mycoplasma and viruses are essential. Virtually all our firms lack the size and resources to conduct research themselves."

Nursery production, unlike other types of agriculture, does not require government subsidies. With sales volume approaching $5 billion, nursery gets very little support currently from USDA, and the little it does get is very critical, Lederer said.

EPA may study small waste levels

The Environmental Protection Agency has recommended a two-year study on alternatives for regulating small generators of toxic wastes to House and Senate Committees. EPA Associate Administrator Rita Lavelle told the committees in a letter including generators of less than 1,000 kilograms per month in current regulations would add an enforcement load of 130,000 to 690,000 facilities.

If the monthly limit is lowered to 100 kilograms (roughly 228 lbs.) per month, an estimated 130,000 facilities would fall under the same regulations as larger generators. EPA wants a study of the type and quantity of waste generated by smaller industries to weigh risks versus benefits of additional enforcement.

AAN continues immigration fight

AAN and the Society of American Florists continue to lobby against popular changes in immigration control. The changes are inspired by pressure from unemployed Americans who claim immigrants are taking jobs away from them.

AAN and SAF believe the changes, mainly involving identification and hiring procedures, are unworkable and would result in fines to growers which are not deserved as intentional violations.

Congress is likely to handle the Immigration Reform Act quickly so that it can move on to Social Security legislation, according to Leo Donahue at AAN.

NEWS *from page 19*

ter sugar results this year over last—Amfac lost $30.5 million in sugar in the third quarter last year. Non-sugar operations continued to be hurt by the depressed national economy, specifically the reduction in new construction and discretionary spending, which affect Amfac's distribution, retail, hotels and resorts, and horticulture businesses.

Nine months' net income was $15,552,000 or $1.04 per share, compared with $36,501,000 or $2.51 per share for the first nine months of 1981.

Revenues for the first nine months of 1982 were $1,605,506,000 compared with $1,609,128,000 in 1981.

IRRIGATION

Rain Bird names new district manager

Steven P. Christie has been appointed district manager for the Southern California sales region of Rain Bird Sales, Inc., Turf Division. Christie will be responsible for implementing turf sales and marketing programs for the region. Prior to his promotion, he served as turf specifications manager for the Southern California region. He joined Rain Bird in 1978 as an irrigation design instructor.

EQUIPMENT

Porter Brothers expands distribution to Yazoo

Porter Brothers, Inc., has been named distributor for Yazoo Manufacturing Company in Virginia and West Virginia.

Porter Brothers has distributed Yazoo mower and tiller products in North and South Carolina for over 10 years. Joe Porter, president of Porter Brothers, said, "We are very pleased to be able to add Yazoo to the other quality products we offer to our dealers in Virginia and West Virginia. We plan to continue to expand our service line in this area as rapidly as possible."

The Shelby, North Carolina-based distributor already handles McCulloch, Flymo, Carlton and Topper products in Virginia, and is the distributor for a number of additional major outdoor power equipment manufacturers in North and South Carolina such as Green Machine, McCulloch, Snapper and Giant Vac.

Porter Brothers was organized in 1949, and is the largest distributor of outdoor power equipment in the U.S.

Continued on page 62

Forecast: Peace of Mind Fertilizing

EXTRA

Forecast: Peace of Mind Fertilizing

Milorganite . . . America's Foremost Naturally Organic Fertilizer

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Naturally organic Milorganite is the safest and easiest to use all-purpose fertilizer. It is easy to apply and does not burn because there are no salt problems as with chemical fertilizers.

Milorganite is no longer used only on lawns. The 4 units of iron found in Milorganite give excellent color to all plants. It has been very successful in the fern industry. Milorganite can also be premixed with soil. Best results are obtained by mixing 50-100 pounds per cubic yard. When soil has been mixed with Milorganite it will go through a heating process and should be turned twice at two-week intervals. The soil will be ready to use in six to eight weeks.

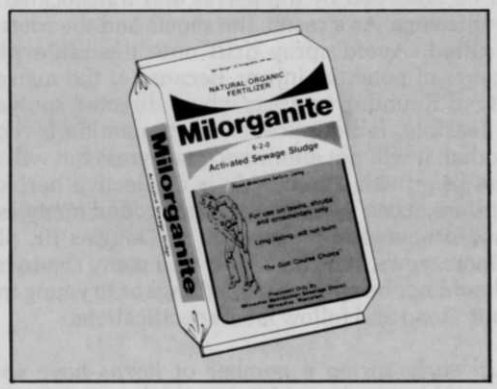
Milorganite can be used in beds, on rooted cuttings, while transplanting, or on top of containers in the following amounts:

2" - 4" pots —	2-4 Tablespoons
5" - 6" pots —	4-6 Tablespoons
8" pots —	8-10 Tablespoons
10" pots —	15-20 Tablespoons
12" - 14" pots —	20-30 Tablespoons

Lighter or heavier amounts may be used depending on fertilizing intervals.

Milorganite breaks down slowly and will not leach through soil like most chemical fertilizers. Milorganite helps establish excellent root growth in beds and is easy to use in hanging baskets because there is no worry about burning the leaves.

Milorganite is definitely "The Peace of Mind Fertilizer" for all growers.



Nitrogen	6.9%	Calcium	0.7%
Phosphorus	2.9%	Magnesium	0.3%
Potassium	0.6%	Iron	4.4%
Sulfur	1.0%	Zinc	.11%

Trace amounts of boron, copper, manganese and molybdenum are also present.

Nutrients other than nitrogen, phosphorus and iron cannot be guaranteed because their percentages are below minimum required by state law. The above numbers represent the average in 1982 production only.

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Circle No. 119 on Reader Inquiry Card

VEGETATION MANAGEMENT

By Balakrishna Rao, Ph.D., and Thomas P. Mog, Ph.D., Davey Tree Expert Co.

Q. *What kind of herbicide can be used to control quackgrass in landscaping areas? We are interested in treating the area around a number of different conifers and shade trees. (Massachusetts)*

A. Quackgrass (*Agropyron repens*) is a creeping, grass-type perennial weed. It spreads vegetatively by the production of stolons and rhizomes, and thus presents a serious problem once it is well established. Hand-digging removal is not satisfactory. For best results, the herbicides such as glyphosate (Roundup) or pronamide (Kerb) should be applied when the quackgrass is actively growing in the fall.

Glyphosate is a systemic, nonselective herbicide. It will be absorbed by the leaves and translocated into the rhizomes. As a result, the shoots and the roots will be killed. Avoid spray drift onto desirable plants because of potential injury. Because of the nonselectivity of Roundup in areas where directed sprays are not feasible, fall application of pronamide is recommended; it will not eliminate quackgrass but will suppress its growth. Pronamide is a selective herbicide; therefore, it can be safely applied around many established ornamental plants such as Douglas fir, pines, junipers, yews, forsythia, holly and many shade trees. It should not be applied to seedlings or to young transplants. Read and follow label specifications.

Q. *In early spring a number of lawns have shown areas of bleached grass blades which generally disappear after mowing. What causes this, and is there something we can do to minimize the problem? (Indiana)*

A. From your statement, it appears that the problem of bleached grass blades is related to winter injury, particularly to winter desiccation.

Cool-season turfgrass survives the winter in a dormant or semidormant state. As moisture and temperature become favorable in the spring, new roots and shoots are initiated. Heat and drought stress during midsummer followed by adverse winter conditions can injure root systems of cool-season turf. Factors such as low temperature, winter desiccation, heaving, and deicing salt can cause winter turf injury.

Winter desiccation occurs when insufficient moisture is available to turfgrass because of dry or frozen soils. After the snow cover thaws, turfgrass may appear green, then the leaves normally bleach to a characteristic shade of white or brown. This is called "windburn," due to atmospheric desiccation. Superficial foliar windburn is not critical as long as the water deficit does not injure the meristematic tissues of the crown. Severely affected crowns may not recover except from the nodes of rhizomes and stolons.

Damage from winter desiccation usually occurs on exposed sites that are subject to drying winds or areas that do not accumulate protective snow cover. Fencing or planting shrubbery to direct and accumulate snow, as well as judicious fall watering, may help prevent excessive drying. Some managers use brush from pruning, mulches or topdressing to prevent winter desiccation. Antidesiccants can be used to ensheath grass blades and keep them from drying.

Applications of quick-release fertilizers, such as urea, should not be applied to dormant turf which is prone to winter desiccation. Applications should be timed early enough in the fall to allow the fertilizer to be washed into the soil and be utilized by the plant, minimizing the potential for foliar burn or physiological drought.

Q. *I have planted many trees very successfully without pruning to compensate for root loss. Why do nurserymen recommend pruning the branches when they transplant a tree? (New Jersey)*

A. Transplanted trees are pruned to keep a balance between the top of the tree and its roots and to provide a sturdy framework of branches. A healthy tree has just enough shoots to manufacture food and just enough roots to take in water and nutrients; the shoots and roots are in equilibrium.

When a tree is dug for transplanting, many roots are lost. Some nursery stock has been root-pruned several times, and the roots are pruned again during digging for transplanting. Any reduction of the root area could result in death if the remaining roots are not able to supply the crown with enough water. Thus, it is a common practice to slightly prune back the top of the tree to re-establish a healthy root-to-shoot relationship.

Pruning may also result in desirable side branching. The planting stock may be leggy or spindly because of crowded conditions where it was grown. Selective pruning of the branches aids in the development of a shorter-stemmed, more stocky and structurally stronger tree.

The fact that you have successfully transplanted trees without pruning may mean that you have provided other special care, such as a regular watering program, which reduced the water stress.

Q: *What is the best control for bagworms on junipers? (Missouri)*

A: The young larvae are easiest to kill in early to mid-June with carbaryl (Sevin), diazinon or malathion.

Balakrishna Rao is plant pathologist and Thomas Mog is pest management specialist for Davey Tree Expert Co., Kent, OH.

Questions should be mailed to Vegetation Management, Weeds Trees & Turf, 7500 Old Oak Blvd., Middleburg Heights, Ohio 44130. Please allow 2-3 months for an answer to appear in the magazine.

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Circle No. 117 on Reader Inquiry Card

DESIGN CONSIDERATIONS

INTERIORSCAPE PLANNING INVOLVES BUILDING AND PLANT SPECIALISTS

BY JOHN MINI

ChemCourt *on Park Avenue in New York City depends more on its interior landscaping than its exterior landscaping.*

Amidst the towering buildings and traffic clogged streets of New York City are lushly landscaped interiors exemplifying the "state of the art" in Indoor Landscaping. Projects like Olympia & York's Park Avenue Atrium and Chemical Bank's gift of greenery to New York-ChemCourt.

These spaces have become focal points with thousands of people enjoying the gardens everyday. Because of these interior plantings' critical importance, the necessary careful planning is being carried out earlier in a project than ever before. This planning must be a cooperative effort between all parties involved; the project architect, general contractor, lighting engineer and sometimes even the plumbing contractor must work together with the interior landscape contractor to insure a successful, trouble-free interior planting.

One of the first planning steps of the entire project should concern the first phase of an interior landscape project. Certain critical aspects, which are often overlooked until building design is too far along, should now be considered. Proper design of the space in which the foliage will be placed begins now, and certain design factors must be incorporated into the early phases of the architectural drawings. Sufficient lighting, accessible water sources, positive drainage and adequate access must be examined and found sufficient to complete the project.

These examinations are carried out by the architects in the early design stages. Professional consultation must be utilized to insure the success of the project. Selection of the proper foliage material to suit the design space should be a joint accomplishment, as in the Park Avenue Atrium, 466 Lexington Avenue, New York City. The designer, Edward Durrell Stone Assoc., and my firm, Indoor Landscapes Ltd., worked closely together on the plant specifications as well as the other critical aspects of the project.

The plant specifications for this 23 story atrium were carefully drawn up to insure the proper selection of material that would both fulfill the aesthetic requirements set by the designer and provide the health and longevity wanted by all concerned. The 1400 vining *Philodendron* were chosen to match the polished chrome finish of the balcony floors. The solid gray-green leaf of the *Philodendron* along with three and four foot long runners were individually potted for lushness and fullness. The designer felt the *Philodendron* would create a less harsh effect than a variety with a variegated leaf.

Plants such as these *Philodendron* must be grown by contract and the interior plantscapers must be able to project the replacement rates in the upcoming months and years to handle normal deteriorations, as well as losses due to insect and disease infestations.

Plant needs must be incorporated into architectural drawings.

In the Park Avenue Atrium for example, the lighting dropped off considerably towards the lower balconies. The faster deterioration of the vines on the lower balconies was anticipated and many options were considered to insure a uniform look at all the balcony levels. Artificial lighting and rotation were considered but a greater replacement rate was ultimately planned as the solution to this particular problem.

The eighteen foot *Ficus benjamina* which were selected for the Park Avenue Atrium were specified with thirteen foot spreads and designed to have the tree crowns placed "tip-to-tip" to create a pleasant canopy effect.

Foliage material of this size is sun-grown in Florida nurseries and must be acclimatized by first being placed in grow pots, and later under shade houses to prevent excessive shock and to allow the plant to adapt to the interior environment. Plant inspection at the nurseries by both the designer and interior plantscapers is recommended.

In addition to approving the actual specimens, the designer should also understand that the sun-grown material will change its aesthetic appearance once it becomes fully acclimatized. The trees are selected and tagged to begin the acclimatization period at least six months prior to installation. The benefits of a thorough acclimatization period were clearly shown in Chemical Bank's ChemCourt on Park Avenue in New York City. Because of the unusual nature of much of the plant material it was chosen early. Early selection provided an acclimatization period of three to six months. Because of the ideal length of this period, the predictable shock to the plants was greatly reduced. One variety, the *Bucida Buceras*, or Black olive tree, defoliated far less than anticipated.

A major factor which must be considered in the early phases of any project is the lighting. Lighting for plant maintenance must be examined in terms of intensity, duration and quality. Minimum lighting intensity for any interior plantscaping should be no lower than fifty footcandles on the ground plane.

It is important that lighting intensity for selected plant material should be planned early in the design process. Duration should be planned for a continuous 12-16 hour day, seven days per week. Artificial and natural lighting must be incorporated in the design space to efficiently provide a consistent, effective, lighting environment if the plant material is to survive.

Coordination between the designer, interior landscape contractor, and lighting engineer may be necessary to achieve both the necessary light levels for plant maintenance and a pleasing color rendition. With the wide variety of high output incandescent and H.I.D. (high intensity discharge) fixtures available, excellent results can be achieved.

Another condition to consider when selecting a variety is the temperature of the space. Normal

continued on page 66

John Mini is president of John Mini, Indoor Landscapes, City Island, NY. He is also education coordinator of the Interior Landscaping Program at the New York Botanical Garden.

LAWN CARE CUSTOMER WANTS DON'T MATCH NEEDS

BY CHARLES DARRAH

Managing turf fertility programs in commercial lawn care presents a unique set of problems. The strategies for fertility management developed by the lawn care agronomist must operate under various constraints. In addition, research to date in turf fertility has not adequately explored the options which are often necessary to use in lawn care programs.

Much of the past fertility research, for example, has defined the optimum nitrogen source to use under defined environmental and management programs, while lawn care agronomists are confronted with diverse management programs on home and commercial lawns. Past research has also defined relatively narrow time frames for fertilizer applications. Rates of application have been defined to produce optimum agronomic results.

The first constraint faced by lawn care agronomists is the expectations of the customer. If we don't satisfy the needs and wants of our customers we cannot sell our service. Customers demand a dark-green, dense, pest-free lawn. They want this dark green color in the spring and summer, times which go against agronomic optimums when it comes to fertility programs for cool-season turf.

The customer also expects to see something for his money; and unfortunately, nutrients like phosphorus and potassium generally don't produce visual effects or other responses the homeowner can readily observe. Likewise, applications of lime and sulfur to correct soil deficiencies usually produce negative visual effects.

Lawn care agronomists must also function under special operational considerations. There is a large capital investment in a lawn care business. The employment of a workforce and a commitment to a payroll must be considered. Capital and payroll commitments demand productivity from the workforce, at least on a seasonal basis. The eight-week round, very common in lawn care programs, probably evolved as a balance between the fertility needs of turfgrasses and production loads that produce adequate returns on capital and payroll investments. Certainly we can provide other services when no fertility round is dictated by agronomics, such as insect control.

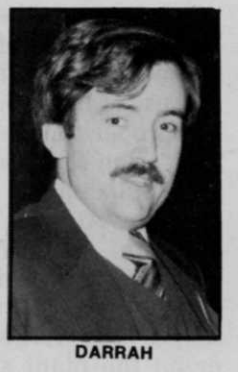
More specific to fertility programming, the lawn care agronomist has a contraint on materials selection. Each source of plant nutrient has its advantages and disadvantages in producing the agronomic optimum results. Material selection is most often based on the efficacy of the material. However, at certain times the most efficaceous material cannot be used because it's not in the form (liquid or dry) that would be most compatible with equipment or other operational considerations, including cost. Agronomists often put cost at the bottom of the list. However, our operational people will put cost at the top of the list, especially in material selection. We must keep lawn care affordable.

> Turf fertility research has not adequately explored the options often needed in lawn care programs

A good example of some of these trade-offs exist in selecting a liming material. Granular limestone has operational advantages because of its ease of spreading. However, in most cases it is not the optimum form of lime to use from an agronomic viewpoint. The other alternative, fine-ground limestone, is difficult to spread on a large number of lawns. Pelletized limestone is a compromise even though it costs three to four times as much as granular or fine-ground limestone. We've tried fluid limestone, but there are storage problems.

It is the programmed use of fertilizer nutrients that give the lawn care agronomist the most difficulty in trying to achieve agronomic optimum results. In nitrogen programming, there must be a balance between agronomic optimums and customer expectations. Nitrogen effects the color and density of turf to a dramatic degree. The agronomist is under pressure to give customers the dark-green dense lawn they want at all times. A balance between agronomic optimums and customer expectations is necessary.

Timing of nitrogen applications within an eight-week round often falls short of agronomic optimums. On the other hand, fall fertility programs on cool-season turfgrasses often don't meet customer expectations during the spring and summer months.



DARRAH

Continued on page 30

Chuck Darrah is agronomist for ChemLawn Corp., Columbus, Ohio. This article is derived from a speech he gave at the recent ChemLawn symposium.

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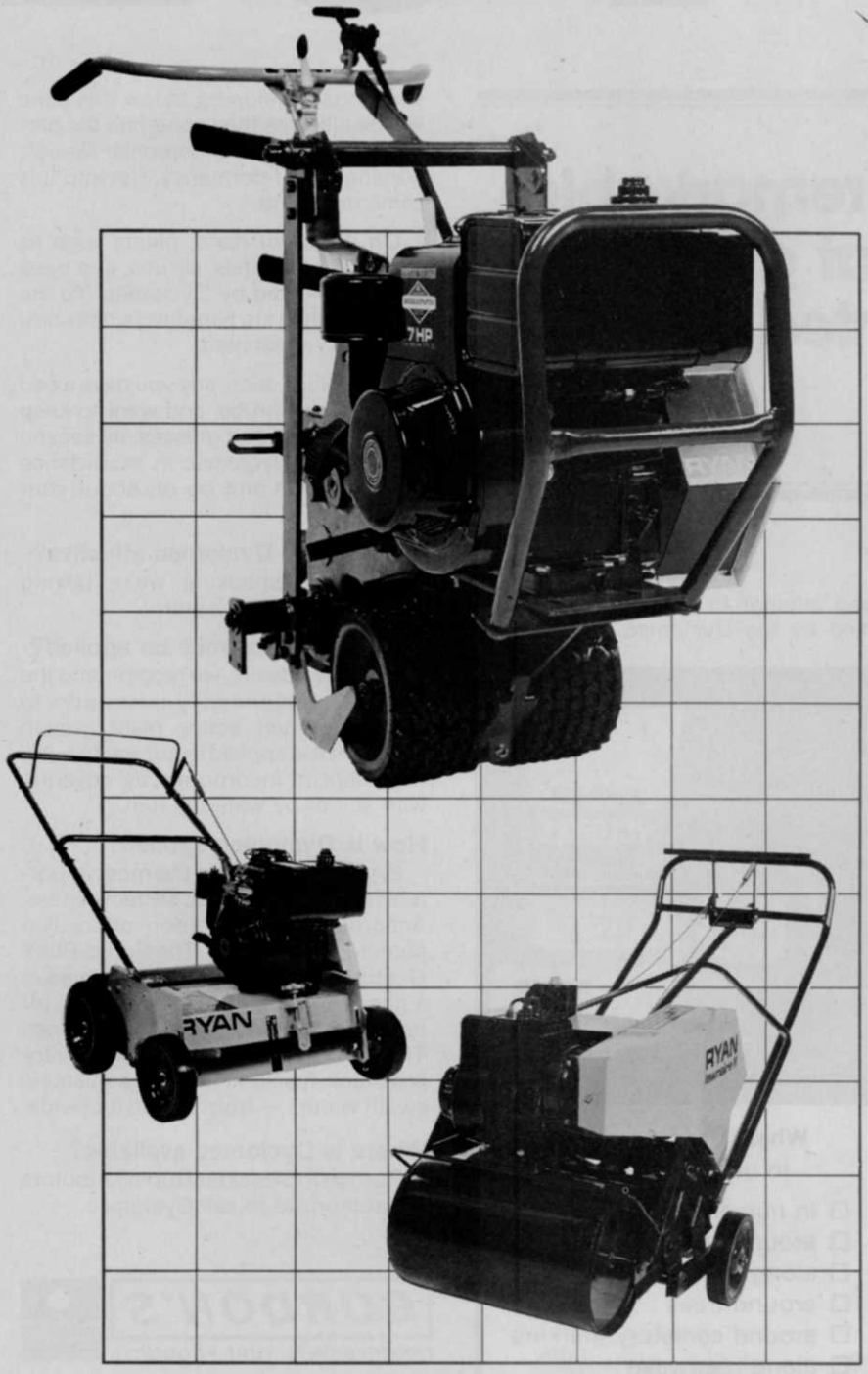

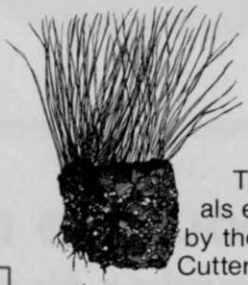

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On the other hand, plants such as woody ornamentals, shrubs, and trees are not affected by Dyclomec. To the contrary, they are benefited since competition is eliminated.

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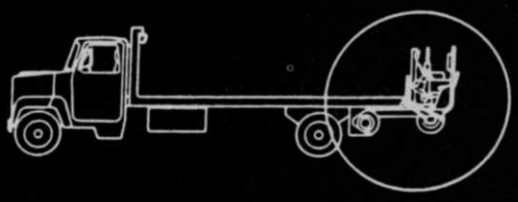

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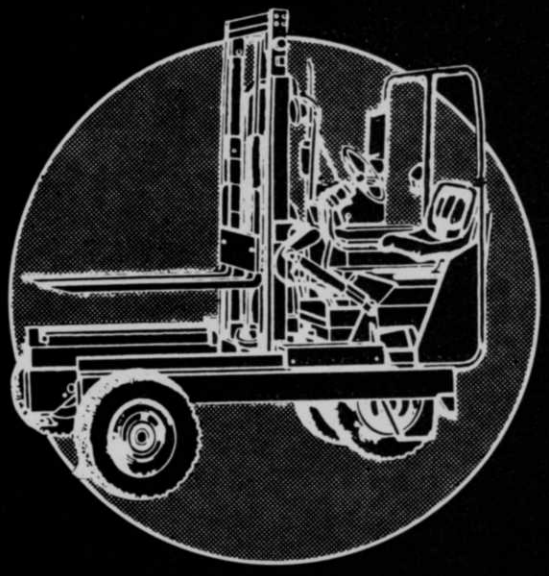

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Continued from page 26

Another consideration in nitrogen programming are the commercially available nitrogen sources. Several new sources have evolved principally to serve the liquid lawn care market. Many of these materials are similar to the more traditional materials in dry form. Additional research is needed to determine the performance of these materials.

Programming phosphorus and potassium also presents some difficulties. Better calibration of soil test results and soil test recommendations are needed to provide lawn care customers with adequate maintenance levels of phosphorus and potassium. I've seen soil test levels for correcting deficiencies of potassium in heavy clay soils that recommend rates of 18 lbs. per 1,000 square feet. We face similar problems with soil pH correction.

Timing of phosphorus and potassium applications in another area of limited knowledge. Because of multiple round applications lawn care programs may do a better job of timing phosphorus or potassium nutrition than traditional single-application programs.

Micronutrient sources are also important to lawn care programming. Organic micronutrients are generally more expensive than inorganic materials. We need to consider rates to provide those materials to our customers at affordable prices. Timing of micronutrient application may again favor the lawn care program over traditional programs.

Compatibility of micronutrients with other chemicals and the equipment is important. The micronutrients delivered in lawn care applications are either mixed with dry or liquid NPK materials. The liquid solution presents the greatest hazard for chemical incompatibility and it has also been recognized in dry mixtures. There are some problems when tank trucks are exposed to micronutrients on an extended basis.

In order to make this industry continue to grow it is imperative that research be conducted within the constraints of business. We must broaden our agronomic base to provide for alternative fertility programs which will benefit both the customer and the industry.

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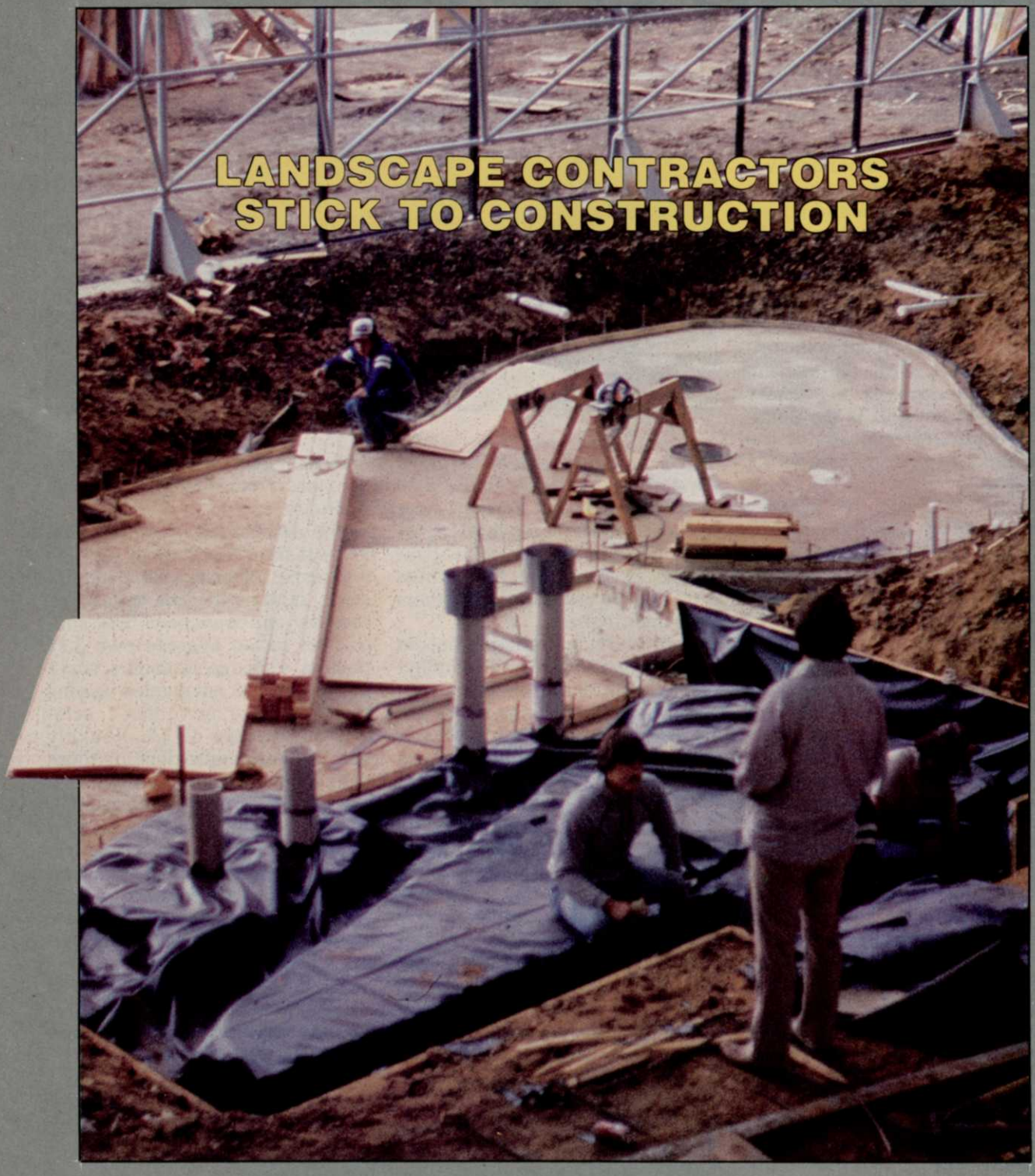
LANDSCAPE MANAGEMENT



WEEDS TREES & TURF

Research in LANDSCAPE MANAGEMENT

CONTRACTORS STICK TO CONSTRUCTION AND WAIT FOR RECOVERY

The majority of landscape contractors in a recent *Weeds Trees & Turf* survey is unyielding to pressure toward maintenance over construction, despite an uncertain future for construction and a good record in maintenance over the last ten years.

Nearly 80 percent of the contractors in the survey list construction as a primary or secondary business with 60 percent in the primary category. Only ten percent list maintenance as a primary business, however it is the dominant secondary business of the contractors with 25 percent in the secondary category.

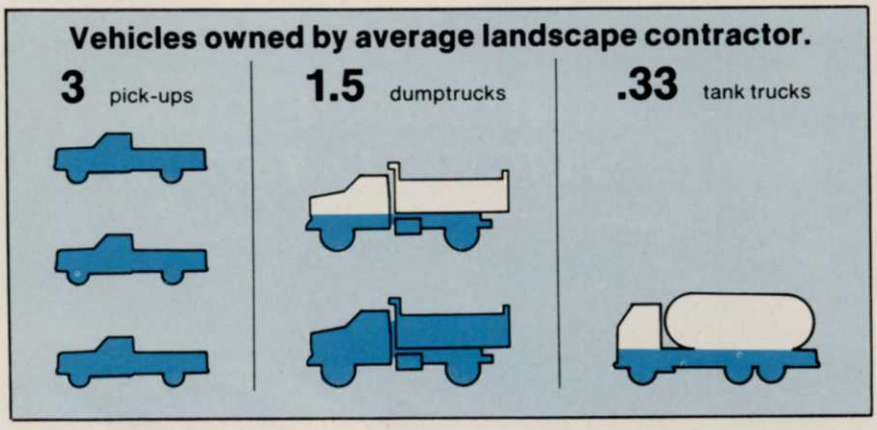
Landscape design is primary with six percent of the contractors and secondary with 12 percent. A third of the contractors operate a retail or wholesale nursery in addition to contracting.

Slightly less than a fourth of the contractors divide their companies into divisions. Divisions listed by the contractors include design, irrigation, maintenance, construction, retail, sod, and wholesale.

Single-family residential is the target market with the most potential, according to the contractors surveyed. It is also the highest priority market at present.

Comparing present target market priorities to markets with the most potential indicates a shift toward serving multi-family residential, a steady concentration on single-family residential, equal emphasis on single-business commercial, and falling interest in multi-business commercial. A slight increase in interest in government agency work is also indicated.

Owners of landscape contracting companies made up 45 percent of the respondents, managers 25 percent, presidents 15 percent, others 15 percent. These contractors reported an average crew size of 2.75 foremen, 8.75 crew workers, and 3.5 part-time workers. Their companies averaged 19 years in existence. Four companies had been in business more than 50 years and most others more than 10 years.



Hard working, trainable people are the most sought after employees by contractors. People with previous landscape experience are the second most desirable. People with horticultural education are sought after by only 16 percent of the contractors. People with a good business sense without landscape experience are sought after by 10 percent of the contractors.

More contractors buy equipment on an as needed basis than by any particular buying month. Chemical purchasing is heaviest in February and March although planning for both chemicals and equipment is heaviest from October through February.

The dominance of construction in the market is evident by the high ownership of construction equipment, such as tractors, spreaders, seeders, and trenchers. The contractors on an average own 2.25 tractors, 4 seeder/spreaders, and 1 trencher. Most companies owning trenchers have more than 1, actually an average of 2.2. Roughly half, a figure approximating those listing construction as their primary business, own trenchers.

All contractors listed ownership of tractors, seeder/spreaders, chain saws, and small mowers. Two-thirds of the contractors own large mowing equipment, an average of 2 each. Spray units are owned by more than half the con-

continued on page 34

TABLE 1

Current market priorities and growth potential. (6 lowest, 1 highest)

Market	Current Priority	Growth Potential
single-family residential	1.85	2.12
multi-family residential	3.33	2.65
single-business commercial	2.64	2.67
multi-business commercial	2.5	3.17
government agencies	4.08	3.86

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Circle No. 114 on Reader Inquiry Card

Contractors *from page 32*

tractors. Turf aerifiers are owned by just less than half, the same for line trimmers.

The contractors own an average of 3 pick-up trucks and 1.5 dump trucks. Tank trucks are owned by less than a third of the contractors.

The state association is the dominant organization in the landscaping industry. Half of the respondents belong to state associations. More contractors belong to no association at all than belong to national organizations, a third of the respondents. Those national organizations listed in order of the number of mentions are Associated Landscape Contractors of America, the American Association of Nurserymen, the National Landscape Association, the Professional Grounds Management Society, the American Society of Landscape Architects, and the Society of American Florists.

Quality is the prime reason contractors feel they have done well in business. Service to the customer was listed as the next reason for success. Price was down the list, below firm bids, broad plant selection, and reliability. Offering a guarantee was listed by only one contractor as the key to success.

When asked about the keys to future success, the contractors listed the economy and careful management most often. Contractors are not looking to any particular segment of the market for future growth or making any great changes in their direction. Markets mentioned specifically by contractors as promising for increased involvement are renovation, new construction, commercial maintenance and government work. However, there is no indication that a large number of contractors are going to abandon construction for maintenance.

Contractors may shift toward multi-family residential as a future market.

Overall, the survey indicated most contractors are sticking to their present type of business while laying low until the economy improves. They are aware of promise in certain types of markets, specifically multi-family residential and government work. But, they believe construction will pick up with the economy and make major changes in direction unnecessary.

This does not support the concept of contractors rushing into maintenance. Consultants have been strongly advising a shift toward maintenance to shore up cash flow. Perhaps their advice is limited to mid to large-sized firms with greater overhead. Cutbacks by smaller firms to survive the recession were evident in the survey. The keys to survival are clearly based upon the size of the company. An improving economy may show some change in contracting firms as they once again staff up. *Weeds Trees & Turf* will make a follow-up report on the landscape contractor in January 1984. **WTT**

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Profiles in LANDSCAPE MANAGEMENT

DALLAS CONTRACTOR FOCUSES ON MANAGEMENT AND SERVICE

By MAUREEN HREHOCIK, associate editor

LDC is doing everything *but electrical and plumbing at Universal Resources*

For most people and industries, the roller coaster economy continues to wreak havoc. But for Carl McCord, president of Landscape Design and Construction, Inc., of Dallas, the current economic tide is providing the impetus for a carefully-designed game plan for his company, assuring its longevity—and more importantly, profitability—in the years ahead.

"The industry is bad now," concedes McCord. "It's as bad as I've ever seen it in my 22 years in the business. But I'm convinced there'll be a recovery, a slow one, possibly taking two to four years, but a recovery none-the-less."

The Dallas businessman believes in creating a "landscape system"—a business structure that functions as competently in the managerial side as it does in the services it delivers. This, he says, is the key to survival.

"Now is the time to get rid of any dead wood, tighten up spending, set priorities and really get down to the basics. It's important to have people in your company that are willing to put out 110 percent."

Only after this type of individual company belt-tightening is done, can steps be taken to improve the overall profit-margin of the industry which McCord feels is sorely lacking.

"We need to correct or equalize profits in our industry," says McCord. "People are getting quality service, yet they find it hard to acknowledge us (landscape contractors) the way they do the medical or real estate professions."

McCord founded Landscape Design and Construction in 1969 with three other partners on a shoestring budget. Michael Boydston, one of the founders, currently serves as vice president of the company. In its early days, the fledgling company worked basically on residential jobs. Everyone worked seven days a week and did a little of everything. Currently, the Dallas operation alone, headquartered in three small renovated houses in North Dallas, is a $2 to $2.5 million a year venture with upwards of 35 employees. Sixty percent of the company's work is done in Dallas, the rest is statewide. Since the mother company was founded in 1969, five other companies and branches have formed:

- in 1971, Maintain, Inc., was founded as a commercial landscape maintenance firm and has now positioned itself as one of the leading maintenance firms in Dallas.
- in 1977, a Houston branch of Landscape Design and Construc-

Continued on page 36

tion was founded.
- in 1978, a Houston branch of Maintain, Inc. was formed.
- also in 1978, Landscape Construction Corp., a strictly landscape contracting company, was acquired in Oklahoma City.
- in 1981, Sunbelt Tree, a containerized tree-growing operation in Richmond, TX was founded.

Now, with McCord's combined ventures, he heads companies responsible for $4 to $5 million worth of business a year and employs more than 135 people.

With the scope of his business, the rapid changes confronting all aspects of the industry and McCord's own wide, but self-taught business acumen, he relies heavily on consultants. Joe Marsh of JM Landscape Maintenance Consultants, Inc. of Coopertino, CA advises him on construction matters, Ken Morfield and Sandy Seay are his consultants on wage and hiring matters and he even employs an industrial psychiatrist, Dr. Jack Bentham.

McCord is also a firm believer—and practioner—of the low compensation/high bonus theory. He has devised a bonus system that rewards managers whose output levels are particularly good. It's been a tremendous success, according to McCord.

Carl McCord *founded LDC in 1969*

"We need more jobs based on performance, less on raises just for seniority alone," he says. "We've got to be sharper."

Up-to-date procedural and operational manuals are an integral part of LDC's operation.

"I want to position this company now so that in the next couple of years, we will be a dominating force in the Texas market," he says. "I want to provide good service and make a profit."

And how did a man who started off his college career as a banking and finance major make it into the green industry?

"During the summer while going to college, I worked at a nursery,"

Continued on page 38

Operations manager Corley promotes flexibility, resources

An overcast Tuesday afternoon finds Marti Corley, operations manager for Landscape Design and Construction, on-site at Universal Resources, one of the many new office facilities under construction on the north side of Dallas. Rain the day before has forced workers inside to work on an interior atrium. The only thing subcontracted out on this $115,000 job will be the plumbing and some electrical work. Everything else, including irrigation, concrete work, decks and designing, has been done by LDC.

"With each job we accomodate the needs of the client," explains Corley. "With this one, we're doing practically everything."

Corley oversees six crews of 25 workmen and five foremen. In the course of a day, he may go on site to any number of given projects, checking work progress, ironing out problems and troubleshooting. Each day presents a new set of problems, not the least of which is the weather.

Most of LDC's primary customers are commercial, multi-business concerns. The company also does much municipal and institutional work, and when the job is large enough, residential contracts, such as the Johnson Residence, also in North Dallas. That project alone called for the removal and later, replanting, of 65 trees to permit grading of the 9-acre estate. The trees were balled and moved to LDC headquarters until it was time for replanting. On this particular job, Corley's decision to switch to a Hustler riding mower because of an increased cutting distance, will pay off. He said he also prefers John Deere tractors because "they're simple and easy to use." LDC also owns a Deere backhoe.

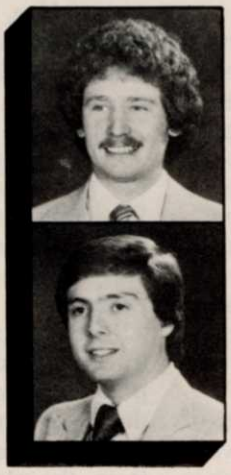
In the late fall and early spring, Corley begins thinking about equipment buying and his needs for the following year. He buys chemicals year-round.

"I usually read trade magazines and go to trade shows to pick up what's new in equipment," Corley said. Information from the manufacturer also influences his decisons.

Besides some other smaller pieces of equipment and the usual assortment of pick up and dump trucks, the company also owns Bobcat push mowers, four Beene turf sprayers and two Beene tree sprayers. Corley prefers Cyclone fertilizer spreaders, Gannon turf aerifiers, Ditch Witch trenchers and has several Stihl and Echo chain saws. **WTT**

CONGRATULATIONS

University of Massachusetts
Gary Cameron
Jeff Houston



Purdue University
Greg Reinbold
Brian Swingle

Michigan State University
Stephen Meyer
Chad Ball
Thomas Lively

Texas A&M University
Randy Broyles
Michael Yarotsky

California State Polytechnic University
Eugene Geery
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McCord *continued from page 36*

recalls McCord. "That's all it took."

He changed majors and was graduated from Texas A&M University's School of Agriculture in 1961 with a BS degree in horticulture and landscape architecture.

McCord prides himself on being not only a registered landscape architect, but also a horticulturist.

"I'm so turned on by this business, I eat, sleep and read it. There's never any reason to burn out. There's just no limitation on where you can go or what you can do whether it's in maintenance, design or construction.

Wherever you go in Dallas, you're likely to pass at one point or another, some of LDC's work. Whether it's the award-winning landscape work at Gabbert's Furniture Studio, the more than $500,000 Interstate 45 in downtown Dallas, Lord & Taylor's, Thanksgiving Tower or the Republic Bank Towers. Some projects are planting alone, such as the Johnson Estate project, others are complete design, construction and maintenance jobs.

"True landscaping is getting a landscape contractor to handle everything on site at a project," McCord says. "That's what we try to do. We're a very versatile company. It's worth it to pay for the expertise of a landscape contractor."

McCord says that expertise is easier to find now. Colleges are turning out better candidates, although, he says, the project manager level of individual is still hard to find.

"Experience and education is, of course, the ideal. You can always find laborers and management is pretty available as well. But it's that middle level of project manager that's still pretty difficult to find truly qualified people for."

McCord prides his business on always doing quality work and its involvement with the Associated Landscape Contractors of America.

"I've met the finest people you'd ever want to know at ALCA," he says. "Also, it's a tremendous opportunity to exchange business practices. Everyone helps everyone else."

McCord has served on the ALCA Design/Build board, been on the Instructional Board of Directors, served on in the Educational Progress Division and is currently the Southwest Regional Director.

While McCord continues to be the originator of most of the company's policy, major managerial decisions, finances and long-range planning, he is eager to find and train the right kind of people to eventually run the company competently and profitably.

"I've devoted a lot of time and energy to this industry and company," he says now. "I'd like to have a little more free time in the future. My family has really sacrificed along with me in this business. I'd like to be able to spend more time with them." **WTT**

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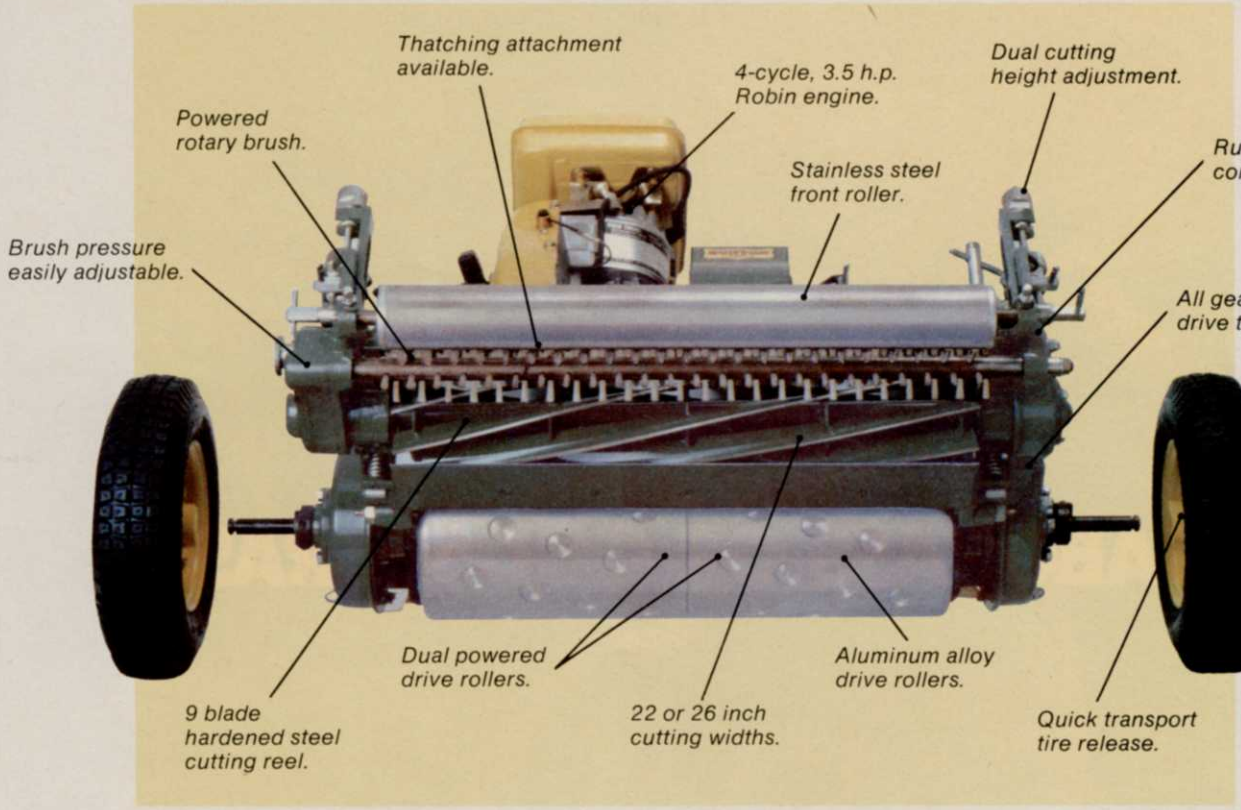
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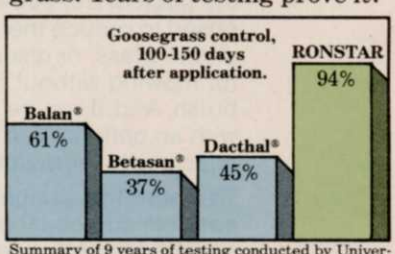

Summary of 9 years of testing conducted by University Experiment Station and Rhône-Poulenc personnel.

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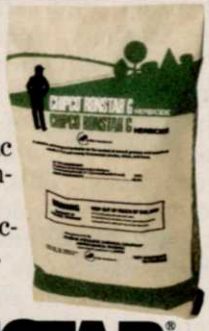

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Profiles in LANDSCAPE MANAGEMENT

HAWAII'S MULKERN PRESERVES DESIGN OF ORIGINAL CONTRACTOR

BY THOMAS PACIELLO

Kevin Mulkern *checking his crew's work.*

Landscape maintenance in Hawaii is big business for one reason: GROWTH. Plant life of all types is continually popping up and more and more frequently the average homeowner is just overwhelmed and seeks a professional. Someone like Kevin Mulkern.

Mulkern has been maintaining landscapes in Oahu (the island that sports Pearl Harbor, Diamond Head and the capitol city of Honolulu) since 1975 and his maintenance business, much like the island's flora, is continually growing. One of the reasons for his success is his philosophy of working with the theme of the original landscape contractor. This, along with his professionalism and ability to work with his clients, has made Kevin Mulkern one of the island's most successful residential landscape maintenance contractors.

"I like to try to keep the theme that the architect set up," said Mulkern, "rather than ripping everything out and replanting." When Mulkern visits a client he visualizes what the original landscaper had in mind. At one residence he noted that the landscaper had planted Mondo grass and Rhapis palms, both shade-loving plants. The third element in the area, Autograph trees, were planted close together. Mulkern concluded that the landscaper wanted to develop a canopy to create grotto under the trees. That made a critical difference in how he went about his maintenance. Instead of pruning the trees back, he is encouraging them to grow up and knit together. Some maintenance contractors have a different view of the landscape from both the original contractor and their client. Mulkern believes the view of the original contractor and the client should take precedence and he works within those confines as long as it is reasonable.

Working with his clients is an important part of Mulkern's business. At one residence the client insisted on planting azaleas. The problem is that much of Oahu's soil is very sandy and lacking micronutrients. Inevitably the azaleas would have died but to please the client, Mulkern planted the azaleas in sunken pots and set up a drip irrigation system. "I like talking to the clients, making suggestions, and getting the go-ahead to act," said Mulkern. His preference for that direct relationship with his clients is one reason he hasn't actively expanded into the condominium market. At condominiums, townhouses and cooperative apartments, one group gives you specifications and another group contradicts that, saying its too costly, according to Mulkern. "Most of my residential clients realize nothing can be done overnight," said Mulkern. "They are patient and are aware that sometimes things don't workout as planned."

After consulting with a client, Mulkern works up a contract that details his responsibilities. His basic program calls for mowing (weekly), edging (biweekly), trimming (every 10 weeks), fertilizing (monthly) and weed control and sprinkler repair (as required). Additionally, Mulkern handles outdoor lighting and insect problems.

One of the benefits of Mulkern having a small but expanding company (9-man crew), is its flexibility. He will often add small non-related duties to the program as a service to his client. At some residences he repairs wooden doors and fences, hand waters potted plants and washes decks an patios.

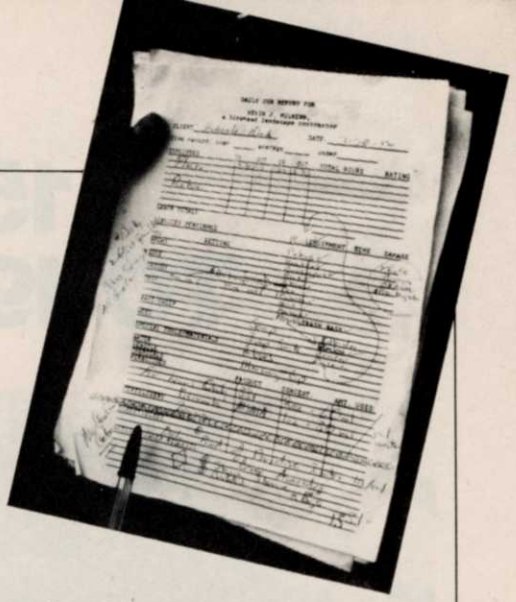
To instruct his crew on which tasks to perform at each client Mulkern has worked up a "Daily Job Report." On the form Mulkern notes which duties to perform, equipment setting, and concentration and chemicals to be sprayed. Crew members then fill in how much time was spent at each job, the condition of the equipment, how much chemical was used and client comments. The Daily Job Report helps the crew by taking out the guesswork at each job site and it helps Mulkern to be more cost-effective at each client.

Mulkern hasn't been a boss so long that he has forgotten the employee's point of view. He believes coordinating employees is basic to a successful maintenance operation. The Daily Job Report provides one aspect of coordination. Mulkern knows the feeling of workers who believe there is no prospect of promotion in the future. He has begun organizing his crew so that selected workers supervise others. He currently has one man in charge of weed control and in that area the rest of the crew reports to him.

"I want my crew to know that as the company grows they can work their way into a supervisory position," said Mulkern.

He is also concerned about their training and safety. Weed identification is taught to crew members, not a small task considering the number of similar-looking plants in the Hawaiian landscape. Workers are also supplied with jumpsuits, rubber gloves and other safety equipment. Mulkern noted that many area landscapers take a cavalier attitude toward safety, something he finds shocking consider-

continued on page 64



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15 PLANTS TO ADD TO 1983 LANDSCAPES

BY DOUGLAS CHAPMAN

June Bride *Little Leaf Linden is well-suited to urban conditions and flowers profusely in late June.*

With the new year here, your shopping list for additional trees to use in the landscape should include a few of the following for their aesthetic qualities, tolerance to unique environmental conditions, or disease resistance. The plants are cultivars of crab apple, white ash, linden, and several conifers.

Crab apples are premier small trees in the landscape. They seem to compete well with turf and, therefore, work well as small street trees, in parks, or in the general home landscape. In the past, many of the varieties, although aesthetically gifted were susceptible to fire blight and/or apple scab. The following *Malus* cultivars are extremely resistant to fire blight and apple scab.

'Red Star' Crab Apple (*Malus* 'Red Star'), a new introduction of Weston Nurseries (Hopkinton, Massachusetts), is an upright, spreading variety, reaching 15 to 20 feet in height. The bright red flowers of spring have pale centers, adding color. The fruit in the fall is small (under ½-inch) and bright red, being extremely effective.

'David' Crab Apple (*M.* 'David') is a round, compact tree, reaching 12 feet in height and width. The pink flower buds open to a pure white flower. The ½-inch diameter red scarlet fruits are exciting in the fall.

'White Angel' Crab Apple (*M.* 'White Angel'), a development of Dugan Nurseries (Perry, OH), has been around for several years. This cultivar is rounded, somewhat compact when young but becoming upright or open at maturity. The ultimate height is 15 to 18 feet. 'White Angel's' outstanding characteristics include annual profusely producing white flowers, followed in the fall by extremely abundant ½- to ¾-inch scarlet red fruits. This plant fruits so heavily that the plant takes on an almost pendulous habit. 'White Angel' Crab Apple is outstanding spring and fall.

'Centurian' Crab Apple (*M.* 'Centurian') a Simpson Nursery (Vincennes, Indiana) introduction, named by Lake County Nursery Exchange (Perry, OH), is a narrow upright, almost columnar crab apple, reaching 14 feet in height. It resembles *M. baccata* 'Jackii' in shape or habit. Its leaves are a dark green, being 3 inches in length and 1½ inches in width. The dark red flower buds open to magenta flowers when in full bloom. The fruit is small and bright red.

'Jewelberry' Crab Apple (*M.* 'Jewelberry'), another development of Simpson Nurseries, is a round shrubby tree, reaching 6 feet in height. The pink buds open to clear white blossoms. This plant has slight biennial blooming tendencies. The ½-inch scarlet red fruit should be effective in the fall.

'Henning' Crab Apple (*M.* 'Henning'), a crab apple being propagated by Frank Schmidt Nurseries (Boring, OR), at maturity

Continued on page 46

Douglas Chapman is horticulturist for Dow Gardens, Midland, MI

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LANDSCAPES *from page 44*

has an upright oval habit, reaching 25 feet in height. The small white flowers are somewhat average for spring color but the bright scarlet fruit (½-inch in diameter) is exciting for the fall months.

'Indian Magic' Crab Apple (*M.* 'Indian Magic'), a recently introduced crab apple, has a broad oval habit of growth, reaching 15 to 18 feet in height. The showy red blossoms are followed in the fall with small glossy red fruit which hold through November. Ultimately, the fruit changes from red to scarlet or orange-red while persisting long after foliar drop.

Crab apples with extreme resistance to fire blight and apple scab are now available.

'Sugar Tyme' Crab Apple (*M.* 'Sugar Tyme'), my personal choice for a new and upcoming crab apple, was originally selected by Milt Barron at Michigan State University and is being introduced by the Lake County Nursery Exchange. This outstanding crab apple has the same basic upright, strong central leader habit of growth that we have come to prefer of 'Snowdrift Crab Apple.' It is an annual bloomer with medium size white blossoms. The brilliant red fruit, which has been reported to remain on the tree through midwinter, is an outstanding characteristic. 'Sugar Tyme,' for its outstanding fruit, habit of growth, and disease resistance, must be a premier entry into the commercial landscape. Personally, we have had only one opportunity to view the plant at M.S.U. and observed it growing in the nursery in Ohio, but everything we have observed shows real promise.

When considering deciduous shade trees, three should highlight the list—'Champaign County' American Ash, 'Cleveland Select' Callery Pear, and 'June Bride' Linden.

'Champaign County' American Ash (*Fraxinus americana* 'Champaign County') does not have outstanding fall color. It holds its green leaves late in the summer and if any color develops, it is a dull bronze. The reasons to plant 'Champaign County' American Ash are that it flourishes in moist soils, grows rapidly (reaching 40-50 feet in height), and exhibits a strong, central leader. The dark green lustrous leaves, which the tree holds almost tenaciously, make it particularly well suited as a street or park tree.

'Cleveland Select' Callary Pear (*Pyrus calleryana* 'Cleveland Select') is a logical selection from the original 'Bradford' Callery type. It's an ideal street or commercial landscape tree. The upright branching results in a tree at maturity with a somewhat upright oval habit, reaching 30 to 35 feet in height. Its summer foliage is a glossy deep green with fall color being maroon and very dependable.

'June Bride' Little Leaf Linden (*Tilia cordata* 'June Bride') is a selection that seems well suited as an urban or street tree. Its dense conical shape with annual profuse flowering makes it outstanding. The spicy yellow flowers that appear during mid to late June add color and aroma to the summer landscape. The leaves are smaller than even 'Greenspire' Little Leaf Linden while being a glossier green. 'June Bride' is outstanding as a tree that adapts well to urban conditions.

Traditional conifers have played an important role throughout the Northeast and North Central states. There are several relatively new introductions that should gain broader acceptance in the trade. They include *Pinus parviflora brevifolia, P. strobus* 'Elf,' and *P. s.* 'White Mountain.'

Dwarf Japanese White Pine (*Pinus parviflora brevifolia*) is an outstanding addition for foundation planting or intimate areas in commercial landscapes. It has all the desirable characteristics of Japanese White Pine in the short dense needles, the fine texture, foliar colors that vary from lime to blue-green, yet growing only 4 to 6 inches annually with an ultimate height of 12 to 15 feet. At maturity this plant becomes somewhat open and quite picturesque. Its habit of growth is analagous to Bristle-cone Pine while being finer in texture.

'Elf' White Pine (P. strobus 'Elf') is another introduction of Weston Nurseries. This tree is slow growing and essentially a dwarf of the *Pinus strobus*. Its ultimate height is approximately 18 feet. It prefers sunny locations and adapts well in many landscapes, be it commercial or individual landscapes. The habit of 'Elf' White Pine is quite horizontal, mimicking a mature white pine, yet this mature habit occurs when the pine is under 10 feet. It is an exciting addition with all the inherent environmental tolerance of our white pine while having a picturesque habit, making it an effective size for any home landscape.

'White Mountain' White Pine (*P. s.* 'White Mountain'), an introduction by Weston Nurseries, is a selection that shows the extreme range of color that one can expect from white pine. Its silver-blue foliage holds on year-round and is somewhat fine in texture. The soft, thin needles result in a fine yet almost unbelievable texture (finer than species *P. strobus*). Although slightly slower growing than the species White Pine, 'White Mountain' thrives in full sun and prefers well-drained to droughty, sandy soils. It is an exciting addition to the large areas or commercial landscapes and can be used in park situations.

The above-mentioned plants, hopefully, give one an idea of the rich variation which is now being offered in many of our nurseries from the east to west coast and in between. If these plants are not native to your area, they should be put on your want list and experimented with. I believe you would quickly find them to be adaptable throughout the Northeast and North Central area. Further, they exhibit desirable characteristics, e.g. lower maintenance, environmental tolerance, and disease resistance. **WTT**

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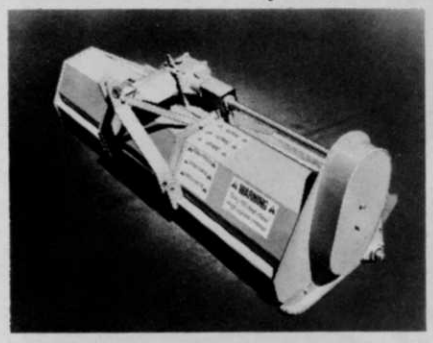
PRODUCTS

Durability is key in SUPER 88 flail mower

The SUPER 88 flail mower is the latest in the Mighty Max Series from Vrisimo Manufacturing, Inc., of California. The SUPER 88 has been reinforced at all stress points, and although designed for schools, golf courses, parks, small orchards and vineyards, it is also



durable enough for use in highway maintenance.

A 2 × 2 tulbar welded to the front and back edges of the housing maximizes the overall durability of the mower. The 5/8 inch A-frame has been reinforced with extra side braces to rigidly maintain the correct pitch relationship of the mower with the tractor. The mower has an extra heavy-duty gear box with hardened forged steel cut gears and tapered roller bearing. Other features include three B drive belts instead of one or two, providing non-slip direct power to the main rotor shaft. 3/16-inch reinforcement plates at critical stress and wear points strengthen the unit. All moving parts are covered with heavy-duty shielding for optimum safe operation. Weighing 980 pounds, the unit's power requirement is from 30 to 50 hp. The available cutting widths are 74, 88 and 100 inches. Vrisimo Manufacturing, Inc., is a subsidiary of Gould Paper Corporation, NY, NY.

Circle No. 150 on Reader Inquiry Card

"Double deck" design featured in new mower

The newest Yard-Man rotary mower is Model No. 12294, a side discharge, self-propelled unit with a 21-inch-wide cut. It features a frame suspended "deck-within-a-deck" design to provide an integral baffle system that insures protection to its integral rear drive system, allows the wheels to turn freely and independently with re-

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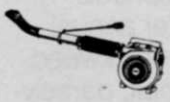

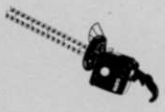

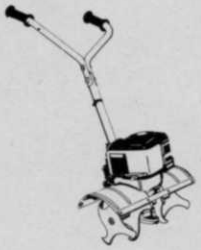

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sulting tighter turning and cornering ability. The 4 H.P. B&S "Quiet Power" engine reduces noise levels by at least 50 percent. The new mower incorporates the Yard-Man "Sentinel" blade brake clutch, meets CPSC blade safety requirements, has a Multi-Matic dial handle to adjust to any height and a handle-mounted throttle and drive control. Optional grasscatcher is available. For more information, contact The Yard-Man Company, P.O. Box 36940, Cleveland, OH 44136.

Circle No. 151 on Reader Inquiry Card

Yanmar Cozy Cabs won't cramp tractor utility

Two new Yanmar Custom 300 Cozy Cabs will not interfere with the operation of the loader, mower, blade or snowblower accessories on Yanmar 220, 226, 276, or 336 tractors. Both cab enclosures are ROPS-tested to OSHA standards. Tinted glass, tractor-

matched colors and strong, all-steel construction are standard features. Heater and wiper are optional. Cozy Cabs are manufactured by Custom Products of Litchfield, Inc., P.O. Box 718, Litchfield, MN 55355.

Circle No. 152 on Reader Inquiry Card

New products, books introduced by Ortho

Seven new products, six new paperback do-it-yourself books and a hardcover horticultural reference guide have been introduced by the Ortho Consumer Products Division of Chevron Chemical Company.

Among the new products introduced are five new home and garden care products in ready-to-use packages that require no mixing. Ortho officials said they hope to attract some of the estimated 10 million potential customers who currently use no lawn and garden products at all, as well as those who want the convenience of ready-to-use products for spot treating problems.

The new products are WEED-B-GONE Weed Killer, Rose & Flower Insect Killer, Tomato and Vegetable Insect Killer, FLEA-B-GON Flea and Tick Killer and Home Pest Insect Con-

Continued on page 52

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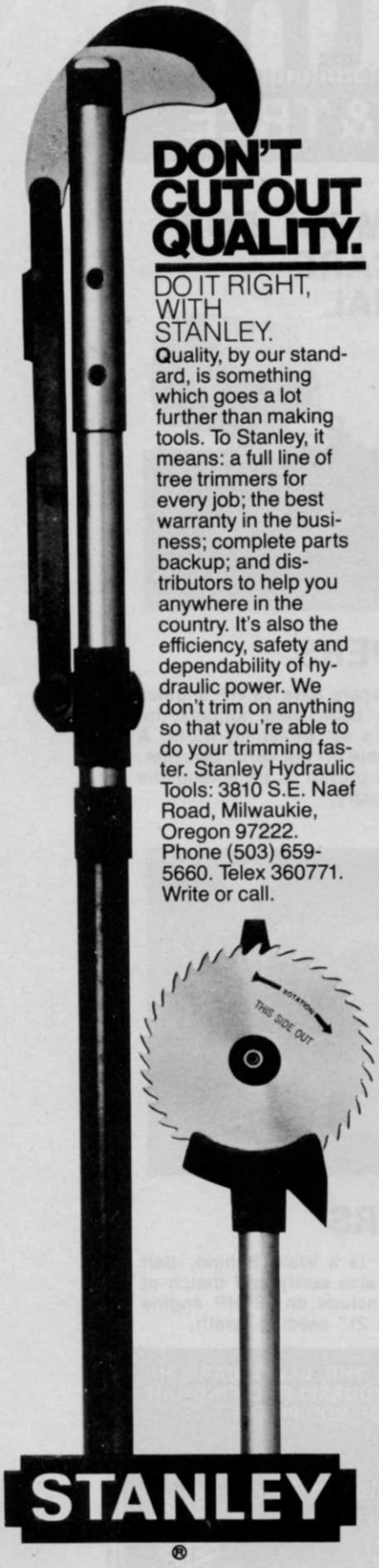

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trol. All are packaged in 24-ounce non-aerosol trigger bottles and join KLEENUP Weed & Grass Killer in Ortho's line of six, ready-to-use products.

Other new products in the 1983 line are two more Ortho Weed Control formulas, BRUSH-B-GON for poison ivy, poison oak and other woody plants (in pint, quart and gallon containers) and KLEENUP Spot Weed and Grass Killer (in 23-ounce aerosol size) for systemic action to kill weeds and grasses in cracks and crevices in sidewalks, paths, driveways and other areas where spot control is needed.

Ortho has also introduced "The Ortho Problem Solver," a major new horticultural reference book, produced primarily for sale to retailers for in-store use. The over 1,000 page text describes, analyzes and gives the solution to 1,969 common garden problems. The book contains 2,000 color photographs, weighs eight pounds and is designed to be displayed on a special reading stand near lawn and garden products to act as both a free information center for customers and as a merchandising tool for retailers.

The latest paperback titles released are: "All About Trees," "All About Growing Fruits and Berries," "Easy Maintenance Gardening," "Shade Gardening," "All About Ground Cover" and "30-Minute Meals." Six more books are planned for Spring 1983 release.

Circle No. 153 on Reader Inquiry Card

Jacobsen mower affords year-round versatility

Hydraulically-driven cutter blades, diesel power and the ability to handle a variety of implements that extend its utility through all seasons, are key features of the new mid-sized, out-front riding rotary mower introduced by Jacobsen Division of Textron, Inc.

Capable of mowing up to 24 acres of turf in an average working day with its 72-inch side discharge deck, the Turfcat II DW 220 is also available with 60-inch rear or side discharge

Scientific Guide To Pest Control Operations

by Dr. L.C. Truman
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decks and with a 60-inch flail mower. All rotary decks are offset to the left for trimming. The rear discharge deck allows trimming from either side.

The first machine of its type and size to offer hydraulic cutting, the Turfcat II DW 220 eliminates belts, drive shaft, bearings and P.T.O. shaft-gearbox to lighten and simplify power transmission, as well as to make engagments of various implements easier.

The Turfcat II DW 220's industrial grade diesel engine is a 22 hp, three-cylinder, liquid-cooled Kubota unit with Bosch injection and full-pressure lubrication. It produces full torque at 1800 rpm's. The double-screened radiator is protected against dusty turf maintenance conditions and also helps provide for cooler operation.

More information about the new machine and its many features is available by writing the Marketing Dept., Jacobsen Division of Textron, Inc., 1721 Packard Ave., Racine, WI 53403.
Circle No. 154 on Reader Inquiry Card

Lakeshore introduces new dry spreader

Lakeshore Equipment and Supply Co. of Elyria, OH, has produced a new rotary spreader designed for professional, multi-use spreading of dry materials such as seed, fertilizer and granular pesticides.

The push-type rotary LESCO spreader has a polyethelene hopper making it virtually corosion-resistant, according to the manufacturer. It has a stainless steel on/off assembly, impeller shaft and axle, Delrin gears and impeller, powder-coat epoxy frame coating, 4.10/350-4 pneumatic tires and ball bearing and zerk fitted

Continued on page 60

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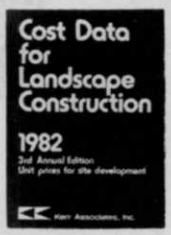

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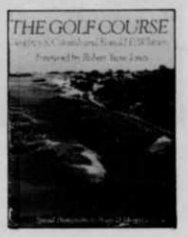

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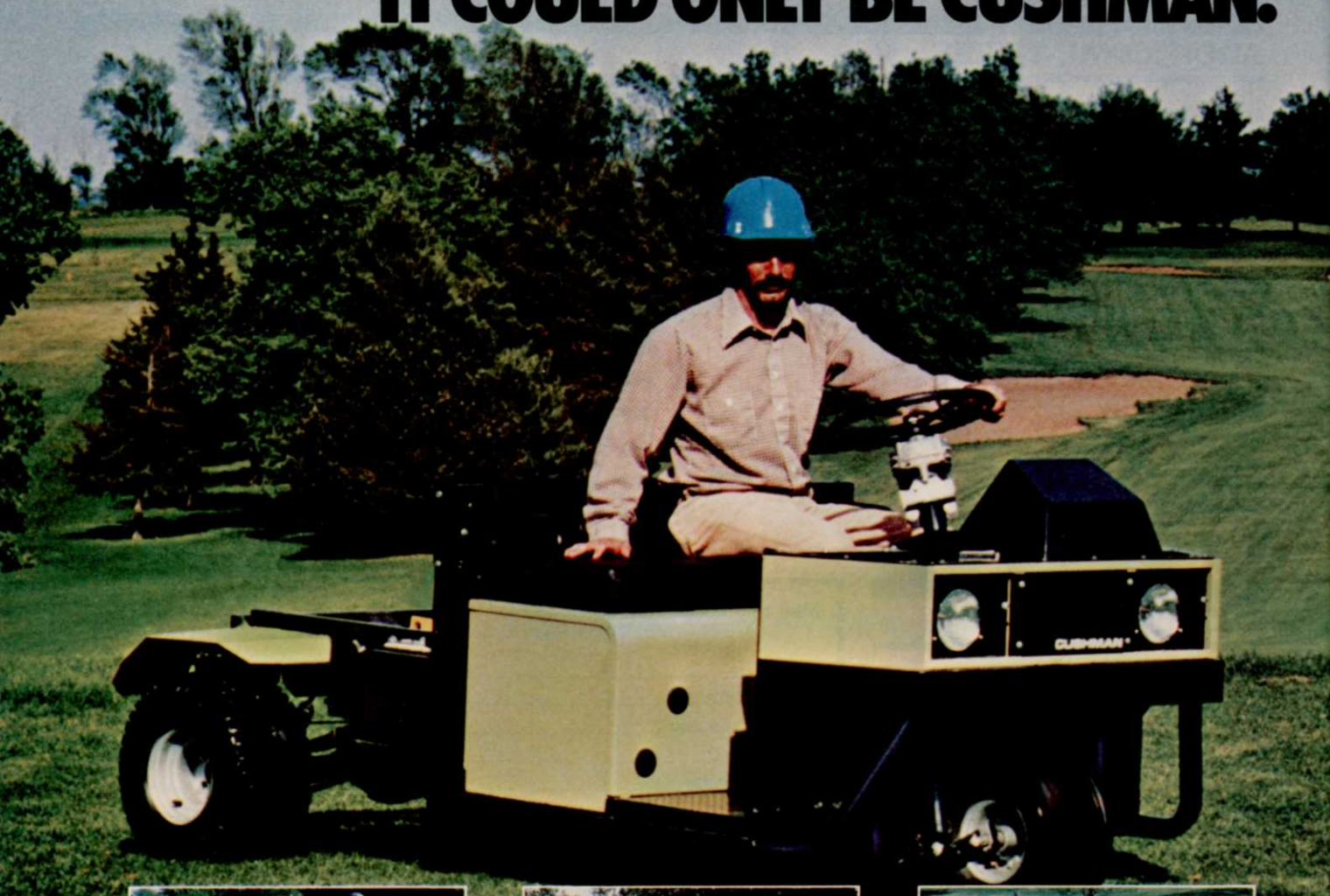

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Circle No. 106 on Reader Inquiry Card

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Continued from page 53

wheels. The weight capacity varies from 50 to 80 pounds depending on bulk density of the material. The full hopper can cover from a few thousand to more than 80,000 square feet, depending on factors such as particle size and bulk density. The material is metered through the stainless steel on/off assembly and dropped onto the spinning impeller.

An electric power attachment with battery kit to make units self-propelled is in the prototype stage.

Circle No. 155 on Reader Inquiry Card

New trenching accessory introduced

Ditch Witch has introduced a trenching accessory for the 350 SX vibratory plow. The hydrostatic trenching attachment is designed for digging starting slots so that vibratory plowing installations can begin at specified depths.

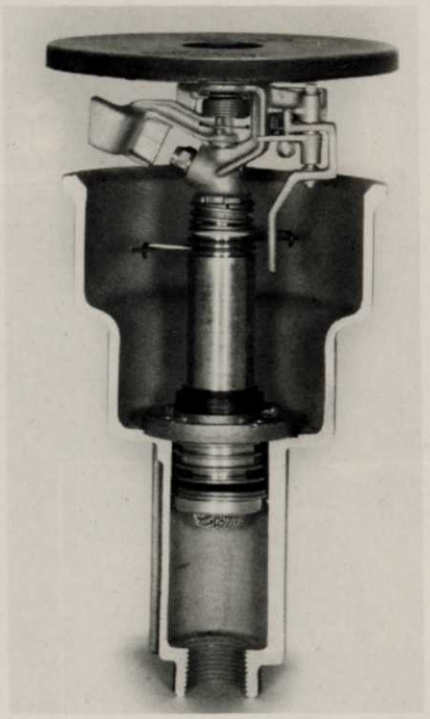
The trenching accessory plugs into the 350 SX vehicle hydraulic manifold. It will trench to depths of two feet. The 350 SX is a compact lawn plow for

direct burial of power and communications cable and plastic pipe without trenching. For more information, contact Ditch Witch, The Charles Machine Works, Inc., P.O. Box 66, Perry, OK 73077.

Circle No. 156 on Reader Inquiry Card

Large sprinkler with anti-back splash

Royal Coach/Buckner's Model 17091 is one inch rotary pop-up with a cast bronze, anti-back splash drive arm designed to operate between 40 and 80 PSI. The coverage pattern is 49 ft. to 61



ft. radius with 9.6 ft. to 21.8 GPM. Standard nozzle size is ¼ in. and a dirt and grit brass screen is also standard. Optional equipment includes a black rubber cover and a break-up nozzle.

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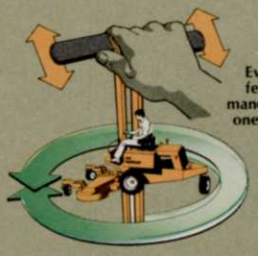

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Continued from page 20

zation. He assumed his duties Dec. 1.

Moore began his extension career in Washington County and later served as Colorado County agent for a number of years. He served shortly as district director for the South Central Texas region, then headquartered at Gonzales, and for the past 11 years has been district director for the Southwest Texas region, headquartered at Uvalde.

"Mr. Moore has had a distinguished career in the Extension Service, is well-known over much of Texas, and has been an effective educator and administrator," said Dr. Zerle L. Carpenter, director of the Extension Service.

The Extension is a statewide educational agency which conducts programs in agriculture home economics, community development and 4-H and youth work to help people solve common problems in those areas.

A native of Stephenville, TX, Moore holds B.S. and M.Ed. degrees from Texas A & M University.

LANDSCAPING

Mattingly acquires equity in Classic

Jack Mattingly, President of Jack Mattingly Associates, Inc., has acquired an equity interest in Classic Landscapes, Ltd. Mattingly has been elected president and general manager of the company.

Classic Landscapes, Ltd., with offices in Raleigh and Greensboro, NC, has been operating since 1976. Classic provides landscape management services to commercial and industrial clients in the Central Piedmont and Eastern portion of the state. The affiliation of Classic Landscapes, Ltd., and Jack Mattingly Associates, Inc., represents the largest landscape management service in North Carolina.

EQUIPMENT

Hudson offers sprayer promotion this month

H.D. Hudson Manufacturing Company will have a special sales promotion on Trombone and Suburban sprayers during January.

The promotion is designed for extra-profit, early spring selling, and includes special pricing on orders received during January for Hudson Trombone and Suburban power sprayers. The offer also includes prepaid freight on an order of four Suburban sprayers or a standard pack of Trombone sprayers.

The Hudson slide-type Trombone sprayer sprays a 30-foot stream and has an adjustable nozzle. The Hudson Suburban power sprayer has a tank capacity of 12 gallons and is available with stainless steel or galvanized tank and a variety of sprayer accessories. It is powered by either a gas engine or electric motor.

For more information, contact the H.D. Hudson Manufacturing Company, 500 North Michigan Ave., Chicago, IL 60611.

CHEMICALS

Burns joins Mobay's Specialty Group

Mobay Chemical Company has named Richard Burns its new sales representative for the upper midwest territory in its Specialty Product Group.

Burns will cover Minnesota, Wisconsin, Iowa, Illinois, Indiana, North and South Dakota, Nebraska, northern Michigan and eastern Missouri representing the Group's expanding line of pesticides to the professional turf, landscaping, commercial lawn care and pest control industries. Burns was a former research technician with the University of Illinois.

LANDSCAPE

New Buyer's Guide in ALCA 'Who's Who'

The Associated Landscape Contractors of America will introduce a "Buyer's Guide" in the 1983 "Who's Who in Landscape Contracting." The directory will be available April 1 and will feature an alphabetical listing of landscape materials and services offered by ALCA's Associate Members. It will be made available to over 4000 interior and exterior contractors and to architects and designers nationwide. ALCA hopes the Buyer's Guide will improve member/vendor contacts and strengthen inter-industry communications.

"Who's Who in Landscape Contracting" is the most widely used listing of landscape contractors in the United States. The companies listed perform all phases of landscaping services ranging from interior and exterior contracting, design, build, land reclamation and maintenance.

Listing in the Buyer's Guide will be limited to ALCA's Associate Members only. For more information call ALCA, (703) 821-8611 or write 1750 Old Meadow Rd., McLean, VA 22102.

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If you answer "yes" to any of these questions — then here at last is the practical help you've been waiting for. Whether you read for business or pleasure, school or college, you will build exceptional skills from this major breakthrough in effective reading, created by Dr. Russell Stauffer at the University of Delaware.

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The new *Speed Learning Program* shows you step-by-proven-step how to increase your reading skill and speed, so you understand more, remember more and use more of everything you read. The typical remark made by the 75,000 slow readers who completed the *Speed Learning Program* was: "Why didn't someone teach me this a long time ago?" They were no longer held back by the lack of skills and poor reading habits. They could read almost as fast as they could think.

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The new *Speed Learning Program* does not offer you a rehash of the usual eye-exercises, timing devices, costly gadgets you've probably heard about in connection with speed reading courses or even tried and found ineffective.

In just a few spare minutes a day of easy reading and exciting listening, you discover an entirely new way to read and think — a radical departure from anything you have ever seen or heard about. Research shows that reading is 95% *thinking* and only 5% eye movement. Yet most of today's speed reading programs spend their time teaching you rapid eye movement (5% of the problem) and ignore the most important part (95%) *thinking*. In brief, *Speed Learning* gives you what speed reading *can't*.

Imagine the new freedom you'll have when you learn how to dash through all types of reading material *at least* twice as fast as you do now, and with greater comprehension. Think of being able to get on top of the avalanche of newspapers, magazines and correspondence you have to read . . . finishing a stimulating book and retaining facts and details more clearly and with greater accuracy than ever before.

Listen-and-learn at your own pace

This is a practical, easy-to-learn program that will work for you — no matter how slow a reader you think you are now. The *Speed Learning Program* is scientifically planned to get you started quickly . . . to help you in spare minutes a day. It brings you a "teacher-on-cassettes" who guides you, instructs, encourages you, explaining material as you read. Interesting items taken from *Time* Magazine, *Business Week*, *Wall Street Journal*, *Family Circle*, *N.Y. Times* and many others, make the program stimulating, easy and fun . . . and so much more effective.

Executives, students, professional people, men and women in all walks of life from 15 to 70 have benefited from this program. Speed Learning is a fully accredited course . . . costing only 1/5 the price of less effective speed reading classroom courses. Now you can examine the same, easy, practical and proven methods at home . . . in spare time . . . without risking a penny.

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Mulkern *continued from page 43*

ing the chemicals and equipment that is being used.

Mulkern is a strong proponent of informal pruning and instructs his crew on cleaning out deadwood and making neat cuts close to the trunk so the tree will heal over. "My attitude is 'you have a tree, you plant it as a tree, let it grow into a tree—not a ball,"' said Mulkern.

With the rapid growth rate of plants in Hawaii, weed control is a constant problem. Nutgrass is one of the most persistent offenders. Besides having a nut on top, there is a nut at the root which makes chemical control difficult. "The quickest way to burn-out an employee is have him pick nutgrass all day," said Mulkern. "Our spray program is designed so we spray once then encourage the weeds to sprout, then spray them two or three more times."

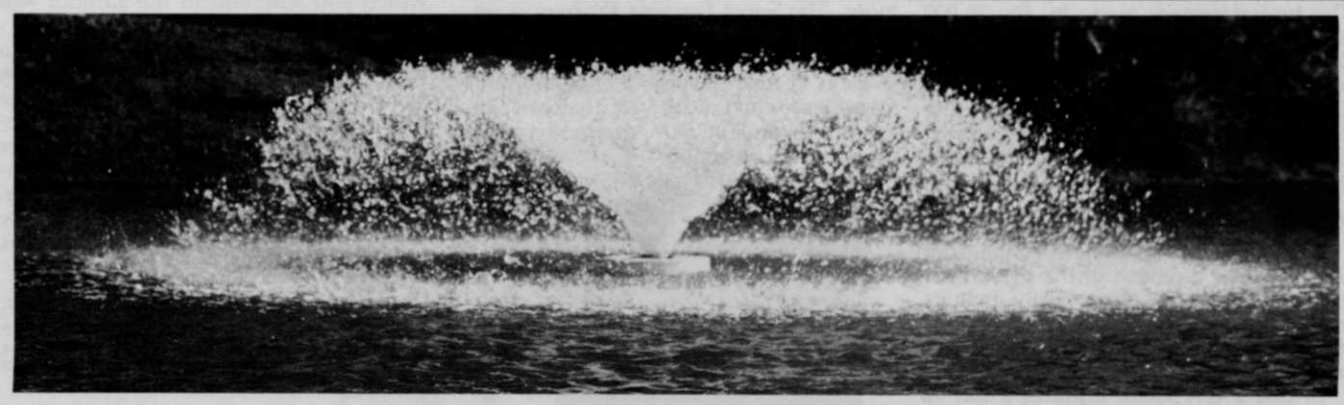
Mulkern prefers to pinpoint weeds with a backpack spot sprayer. As the weeds die the lawn often has yellow spots but he explains to the client that following fertilization the whole lawn will green-up uniformly. "Most of the times it is wasteful to spray the entire lawn so we spot spray," he said. Spurge and Asiatic pennywort are some of the other problem weeds Mulkern encouters.

One way Mulkern tries to cut costs for his clients is by using their own plant materials. "Rather than buying additional plants we use their plugs instead," he remarked. "That way they are guaranteed of the same variety of grass at no additional cost." This is even a greater factor now that sod costs an average of $3/sq. ft. wholesale. Mulkern also plants trees from client's cuttings. At one client he planted a mock orange tree to serve as a backup, just in case any of the trees in the front of the house failed.

Mulkern is dismayed at lowballing

Mulkern prides himself on his company's professionalism and he dismayed at the lowballing tactics of some of his competitors. "A lot of newcomers get involved in landscape maintenance by getting a truck, mower and some tools," said Mulkern. "They feel the only way to get customers is to beat you on price. I feel they should bill out their work at reasonable rates and if they feel they are not qualified to do good enough work at more reasonable rates then they should join a landscaping association and improve their talents."

Besides being professional, Mulkern is very promotion-minded. Employees wear "Kevin J. Mulkern" t-shirts and company vehicles also carry the company logo. Mulkern also has professional brochures made up to publicize his business. "It is very competitive on Oahu and every little bit helps," said Mulkern. His mixture of professionalism, talent and concern has him nosing ahead of the competition. **WTT**



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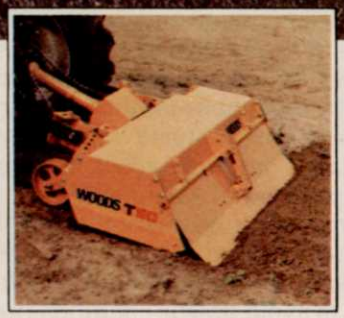

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best alternative. These drains are covered with some type of protective material to prevent clogging. Next to be installed would be a level of a course drainage material, followed by a Fiberglass soil separator, and finally the fill medium. With or without floor drains, a useful tool is the addition of a PVC pipe that reaches into drainage level. This should protrude above fill medium, hidden by planting, and provides the insurance of a check and removal system for excess water.

Support media must also be specifically designated to insure a high quality mix in the planting. One often recommended medium is a soilless mixture. The light weight of this mix, along with its high porosity for good drainage, make it desireable for many projects.

The actual drainage material for large material is usually gravel, chosen for its ability to support the heavy weights involved and to resist compaction. In areas where weight is a critical factor, perlite is often chosen for its lighter weight.

In cases where many varieties are planted in the same box, extra precautions must be taken to insure that each plant is in its preferred moisture condition. A good example of this situation can be found in the Park Avenue Atrium. In the same balcony planters that contain the Philodendron are a line of seasonal flowers that are changed every two weeks. These flowers need to be kept thoroughly moist to remain fresh. Small plastic pots without drainage, or "pot

INTERIORS *from page 25*

operating temperature within the finished space is the most critical, but temperatures during the installation phases are critical as well.

An excellent example is the Park Avenue Atrium in which temperatures varied throughout the entire atrium during construction and early installations; this was a result of drafts caused by unsealed sections of the windows and glass wall. Temperatures were checked with maximum-minimum therometers and pre-installation temperatures were noted to often be below 50°. Large industrial space heaters, were called in as back-up in case of emergency. As a rule, selected foliage material must be tolerant and able to adapt to the final on-going temperature range. The heating, ventilation and airconditioning (HVAC) system must be designed to avoid drastic conditions and monitored to eliminate extremes.

The water supply is another critical component to be examined early in the design stages. The water must be of a quality sufficient to meet the plants' needs, and if necessary, treatment procedures must be provided. In addition, access to both hot and cold water sources is essential. In cases where hoses are to be used to water, adequate sources are recommended to avoid the use of hose sections longer than fifty to seventy five feet.

Adequate drainage is critical for any planting. Positive drainage systems providing floor drains are the

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shields," are placed in the planter. The seasonal flowers go into these "pot shields," and without overwatering the Philodendron, the flowering plants can be kept wet enough to permit their use in these locations.

Prior to installation, regular site inspections enable the interior landscapers to prepare their crew with the necessary equipment and develop delivery and installation coordination and scheduling. Installations often take place while the area is still under construction and accessibility to the planting site is often difficult.

It is often necessary to use an intermediate staging area to store materials. In conditions where temperature is a problem or access to unloading areas are limited, the early planning of a staging area can prevent serious problems.

Deliveries of most of the specimens in Chemical Bank's ChemCourt were organized in such a manner that each truckload was arranged to provide an efficient installation sequence. The delivery of large specimens were spread out over four days and the order that each plant was loaded (opposite to the order of unloading desired) was carefully planned.

A total of 7 trailers of materials were used; in one sequence 5 trailers of plant materials were delivered and installed in 5 days! After completion of drainage material installation, experienced crews begin filling the large built-in planters with layers of soil mix, wetting each layer thoroughly for proper planting and necessary compacting. Hoists and other construction equipment may sometimes be necessary for the installation of larger plant material or for inaccessible areas.

Again using ChemCourt as an example, limited access areas must be considered early in a project. The ChemCourt has balcony planters 30 - 40 feet off the ground level. Backed by a permanent glass wall, these are accessible only from the atrium side. A hydraulic platform was required to plant these boxes. Extra care must be taken not to damage finished surfaces like carpeting, chrome and polished marble finishes.

Much of the success of an interior planting depends on the materials and methods described above but the continued success depends upon the service personnel who maintain the interior landscape. The unique flowering displays in the Park Avenue Atrium are changed every two weeks, all with off-hours labor. A total of twelve hundred (1200) seasonal flowers are changed. To insure a variety of flowers and special effects for seasonal displays, close cooperation between the owner and designer is essential. Gloxinia, poinsettas, chrysanthemums, azaleas and caladiums are some of the varieties that have been used and fully maintained. In addition, special holiday season displays are designed and installed many times each year.

Continued on page 68

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Circle No. 118 on Reader Inquiry Card

EVENTS

The current issue of WEEDS TREES & TURF carries meeting dates beginning with the following month. To insure that your event is included, please forward it, 90 days in advance, to: WEEDS TREES & TURF, Events, 7500 Old Oak Boulevard, Middleburg Heights, OH 44130

21st Annual North Carolina Turfgrass Conference, Pinehurst Hotel, Southern Pines, NC. **Jan. 4-6.** Contact L.T. Lucas, 3409 Gardner Hall, NCSU, Raleigh, NC, 27650, (919) 737-2751.

Tennessee Turfgrass Conference, Music City Rodeway Inn, Nashville, TN. **Jan. 6-7.** Contact Brenda Goins, Executive Secretary, Central South Turfgrass Foundation, 2837 Logan St., Nashville, TN 37211, (615) 832-7725.

Maryland Turfgrass '83, Baltimore Convention Center, Baltimore, MD. **Jan. 10-12.** Contact Dr. Thomas Turner, 112 H.J. Patterson Hall, University of Maryland, College Park, MD 20742, (301) 454-3716.

Southeastern Pennsylvania Turf School and Trade Show, Westover Country Club, Jeffersonville, PA. **Jan. 11-12.** Contact Keith Zanzinger, Chester County Extension Service, 235 W. Market St., West Chester, PA 19308, (215) 696-3500.

Southeastern Pennsylvania Turf School and Trade Show, Westover Country Club, Jeffersonville, PA. **Jan. 11-12.**

Nebraska Turfgrass Conference and Trade Show, Holiday Inn, Omaha, NB. **Jan. 11-13.** Contact Robert C. Shearman, University of Nebraska, Dept. of Horticulture, 377 Plant Science Bldg., Lincoln, NB 68583, (402) 472-1143.

Ohio State University Landscape Design Short Course II, Fisher Auditorium, Wooster, OH. **Jan. 12-14.** Advanced Landscape Design. (Short Course I is prerequisite). Contact Fred K. Buscher, Area Extension Center, OARDC, Wooster, OH 44691, (216) 262-8176.

New Hampshire Turf Conference, Sheraton-Wayfarer Motor Inn, Bedford, NH. **Jan. 13-14.** Contact John M. Roberts, Extension Specialist, Cooperative Extension Service, University of New Hampshire, Plant Science Dept., Nesmith Hall, Durham, NH. (603) 862-1200.

Rocky Mountain Regional Turfgrass Conference, Colorado State University Student Center, Ft. Collins, CO 80523. **Jan. 13-14.** Contact Jack D. Butler, Dept. of Horticulture, CSU, Shepardsen Bldg., Ft. Collins, CO, (303) 491-7070.

53rd Annual Michigan Turfgrass Conference, Lansing, MI. **Jan. 18-19.** Contact Dr. Paul Rieke, Michigan State University, Dept. of Crop and Soil Sciences, East Lansing, MI 48824, (517) 355-0266.

Virginia Turfgrass Conference and Trade Show, Norfolk, VA. **Jan. 18-20.** Contact Dr. John Hall, Agronomy Dept., Virginia Polytechnic Institute and State University, Blacksburg, VA, 24061, (703) 961-5797.

Iowa Turfgrass Conference, Des Moines, IA. **Jan. 19-21.** Contact Norman Hummel, Horticultural Dept., Iowa State, Ames, Iowa, 50011.

Maine Nurserymen's Association Annual Meeting, Augusta Civic Center, Augusta, ME. **Jan. 20.** Contact Richard Churchill, Executive Secretary, MNA, PST/SMVTI, South Portland, ME 04106, (207) 799-7303.

Ohio Nursery Short Course and Trade Show, Hyatt Regency, Columbus, OH. **Jan. 24-27.** Contact Dr. Elton Smith, Ohio State University, 2001 Fyffe Court, Columbus, OH 43210, (614) 422-9775.

University of Tennessee Winter Short Course, University of Tennessee. **Jan. 24-27.** Contact L.M. Callahan, Dept. of Ornamental Horticulture, P.O. Box 1071, University of Tennessee, Knoxville, TN 37901, (615) 974-7324.

Northern California Professional Turf and Landscape Exposition, San Mateo, CA. **Jan. 26-27.** Contact Chet Sarsfield, NCTC, P.O. Box 268, Lafayette, CA, 94549, (415) 283-6162.

National Christmas Tree Association Fourth Annual Christmas Tree Marketing Conference, North Park Inn, Dallas, TX. **Feb. 11-12.** Contact National Christmas Tree Association, 611 E. Wells, St., Milwaukee, WI 53202.

INTERIORS *from page 67*

Due to the widely differing environments encountered, varying service techniques must be employed. Continual supervision is essential to ensure that no disease or watering problems develop that might elude a service technician. In heavily planted areas, preventive spraying programs by licensed pesticide applicators are a logical step. In spraying large planted areas, special care must be taken to protect the surrounding areas with plastic tarpaulins.

Acclimatization should begin six months before installation.

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The future of indoor gardens and spectacular atria like these looks very bright. Experiments in lighting methods are presently being carried out with the hope that more efficient, less expensive means to light large spaces can be developed. In addition, careful testing by the contractor of flowering plants that can exist in the stressful indoor environment holds promise for more colorful and varied indoor plantings. Exotic flowers, such as Gerbers, Arabian violets, and New Guinea Impatiens are being evaluated for durability on-site prior to installing large quantities.

The future of indoor gardens and spectacular atria looks very bright.

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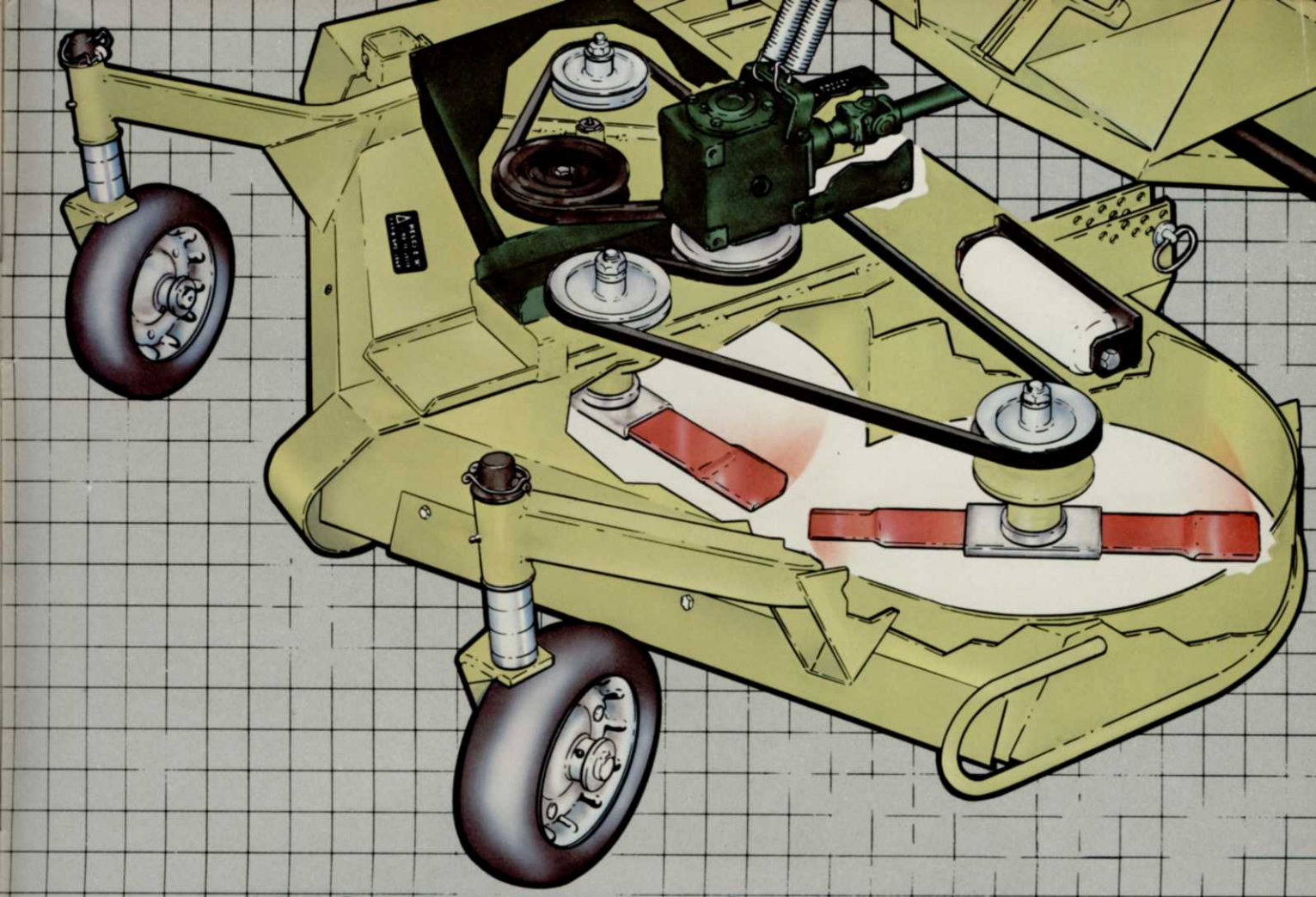

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